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OIL SHALE TRACT C-b

INTERIM MONITORING REPORT

(November 1976 Through August 1977)

Submitted to:

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Area Oil Shale Supervisor
Conservation Division
U.S. Geological Survey
Grand Junction, Colorado

By:

C-b Shale Oil Venture

Ashland Colorado, Inc.

Occidental Oil Shale, Inc., Operator

October 14, 1977

TABLE OF CONTENTS BY VOLUME NUMBER

Volume Number	Table of Contents
I	INTRODUCTION
	I. PRE-EXPLORATION ENVIRONMENTAL RECONNAISSANCE SURVEYS
	II. ENVIRONMENTAL BASELINE MONITORING PROGRAMS
	A. Hydrology and Water Quality
	1. Streams
	2. Springs and Seeps
	3. Ground Water
	B. Air Quality
	1. Air Quality and Surface Meteorology
	2. Low Altitude Meteorology
	3. Upper Air Studies
	4. Visibility
	5. Atmospheric Diffusion Studies
I, II, III, IV, V	References
IV	C. Biology
	1. Terrestrial Wildlife Studies
	2. Aquatic Studies
	3. Terrestrial Vegetation Studies
	4. Soil Survey and Productivity Assessment Studies
	III. OTHER STUDIES
	A. Fish and Wildlife Management Plan (inactive)
	B. Revegetation Program
	C. Microenvironmental Program
	D. Aerial Photographic Program (inactive)
	E. Archaeological Studies (inactive)
	F. Scenic Values Program (inactive)

RADIAN
CORPORATION

DCN 77-100-056-03

AIR MONITORING REPORT
FOR
C-b SHALE OIL PROJECT
DECEMBER 1976
Report No. 28

5 April 1977

Presented to:
C-b Shale Oil Project
United Bank Tower
Denver, Colorado 80202

Prepared by:
Radian Staff

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TABLE OF CONTENTS

Page

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM------- II B-398

II. DESCRIPTION OF INSTRUMENT SYSTEMS------------------- -400
- A. Air Quality Instrumentation---------------------- -400
- B. Calibration Procedures---------------------------- -401
- C. Data Acquisition System--------------------------- -403
- D. Meteorological Instrumentation-------------------- -404

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES------------ -410

IV. OPERATING TIME ANALYSIS FOR EACH SITE--------------- -412

V. MONTHLY METEOROLOGICAL SUMMARY----------------------- -416
- A. Summary of the Meteorological Conditions over North America during December 1976--------- -416
- B. Summary of the Meteorological Conditions in Northwestern and West Central Colorado during December 1976-------------------------- -418
- C. Summary of the Meteorological Conditions in the Oil Shale Tract C-b Region during December 1976---------------------------------- -419

VI. DATA PRESENTATION AND SUMMARY--------------------- -425

LIST OF TABLES

Page

TABLE I DOWNTIME HOURS FOR C-b SHALE OIL PROJECT
Site 023------------------------------------- II B-413
Site 023------------------------------------- -414
Site 023------------------------------------- -415

TABLE II FEDERAL AND COLORADO STANDARDS------------- -413

TABLE III AVERAGES FOR DECEMBER 1 THRU 31
Nitrogen Oxides (NO_x)---------------------- -433
Nitric Oxide (NO)---------------------------- -433
Nitrogen Dioxide (NO_2)--------------------- -433
Sulfur Dioxide (SO_2)----------------------- -433
Pyranometer-------------------------------- -433
Hydrogen Sulfide---------------------------- -433
Total Hydrocarbons-------------------------- -433
Methane------------------------------------ -433
Non-Methane-------------------------------- -433
Carbon Monoxide----------------------------- -433
Ozone-------------------------------------- -433
Barometric Pressure------------------------- -433
Total Precipitation------------------------- -433
Particulate-------------------------------- -433
Wind Speed--------------------------------- -434
Wind Direction------------------------------ -434
Relative Humidity--------------------------- -434
Temperature-------------------------------- -434

LIST OF TABLES (contd)

Page

TABLE IV DAILY AVERAGES FOR DECEMBER 1 THRU 31
Nitrogen Oxides (NO_x)---------------------- II B-436
Nitric Oxide (NO)-------------------------- -436
Nitrogen Dioxide (NO_2)--------------------- -436
Sulfur Dioxide (SO_2)---------------------- -437
Pyranometer-------------------------------- -437
Hydrogen Sulfide--------------------------- -437
Total Hydrocarbons------------------------- -438
Methane------------------------------------ -438
Non-Methane Hydrocarbons------------------- -438
Carbon Monoxide---------------------------- -439
Ozone-------------------------------------- -439
Barometric Pressure------------------------ -439
Total Precipitation------------------------ -440
Particulate-------------------------------- -440
Wind Speed--------------------------------- -441
Wind Direction----------------------------- -442
Relative Humidity-------------------------- -443
Temperature-------------------------------- -444

TABLE V MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DECEMBER 1 THRU 31
Nitrogen Oxides (NO_x)---------------------- -446
Nitric Oxide (NO)-------------------------- -447
Nitrogen Dioxide (NO_2)--------------------- -448
Sulfur Dioxide (SO_2)---------------------- -449
Pyranometer-------------------------------- -450
Hydrogen Sulfide--------------------------- -451
Total Hydrocarbons------------------------- -452
Methane------------------------------------ -453
Non-Methane Hydrocarbons------------------- -454
Carbon Monoxide---------------------------- -455
Ozone-------------------------------------- -456

LIST OF TABLES (contd)

Page

TABLE V MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DECEMBER 1 THRU 31
Barometric Pressure---------------------------- II B-457
Total Precipitation---------------------------- -458
Wind Speed-Wind Direction---------------------- -459
Relative Humidity------------------------------ -460
Temperature------------------------------------ -461

TABLE VI THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DECEMBER 1 THRU 31
Nitrogen Oxides-------------------------------- -463
Nitric Oxide----------------------------------- -463
Nitrogen Dioxide------------------------------- -463
Sulfur Dioxide--------------------------------- -464
Sulfur Dioxide - 24-hour----------------------- -464
Hydrogen Sulfide------------------------------- -464
Total Hydrocarbons----------------------------- -465
Methane-- -466
Non-Methane Hydrocarbons----------------------- -467
Carbon Monoxide - 1-hour----------------------- -468
Carbon Monoxide - 8-hour----------------------- -469
Ozone-- -470
Particulate------------------------------------ -471

TABLE VII FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION
Nitrogen Oxides (NO_x)----------------------- -473
Nitric Oxide (NO)------------------------------ -474
Nitrogen Dioxide (NO_2)---------------------- -475
Sulfur Dioxide (SO_2)------------------------ -476
Hydrogen Sulfide (H_2S)---------------------- -477
Total Hydrocarbons----------------------------- -478

LIST OF TABLES (contd) Page

TABLE VII FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION
Methane-- II B-479
Non-Methane Hydrocarbons------------------ -480
Carbon Monoxide---------------------------- -481
Ozone--- -482

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS
Nitrogen Oxides---------------------------- -484
Nitric Oxide------------------------------- -485
Nitrogen Dioxide--------------------------- -486
Sulfur Dioxide----------------------------- -487
Hydrogen Sulfide--------------------------- -488
Total Hydrocarbons------------------------- -489
Methane------------------------------------ -490
Non-Methane Hydrocarbons------------------ -491
Carbon Monoxide---------------------------- -492
Ozone-------------------------------------- -493
Hourly Total Precipitation---------------- -494
Wind Speed
  8 feet----------------------------------- -495
  30 feet---------------------------------- -496
  100 feet--------------------------------- -497
  200 feet--------------------------------- -498
Wind Direction
  8 feet----------------------------------- -499
  30 feet---------------------------------- -500
  100 feet--------------------------------- -501
  200 feet--------------------------------- -502

LIST OF TABLES (contd)

Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Wind Direction Standard Deviation

8 feet---------------------------------- II B-503
30 feet---------------------------------- -504
100 feet---------------------------------- -505
200 feet---------------------------------- -506

Horizontal Wind Direction Standard Deviation

30 feet---------------------------------- -507
100 feet---------------------------------- -508
200 feet---------------------------------- -509

Relative Humidity

8 feet---------------------------------- -510
30 feet---------------------------------- -511
100 feet---------------------------------- -512
200 feet---------------------------------- -513

Temperature

8 feet---------------------------------- -514
30 feet---------------------------------- -515
100 feet---------------------------------- -516
200 feet---------------------------------- -517
Hourly Total Solar Radiation--------------- -518
Temperature Change from 30' to 100'-------- -519
Temperature Change from 30' to 200'-------- -520
Barometric Pressure------------------------ -521

Bi-Vane Wind Speed

30 feet---------------------------------- -522
100 feet---------------------------------- -523
200 feet---------------------------------- -524

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS
Horizontal Bi-Vane Wind Direction
30 feet---------------------------------- II B-525
100 feet---------------------------------- -526
200 feet---------------------------------- -527
Vertical Bi-Vane Wind Direction
30 feet---------------------------------- -528
100 feet---------------------------------- -529
200 feet---------------------------------- -530
Nitrogen Oxides---------------------------- -531
Nitric Oxide------------------------------- -532
Nitrogen Dioxide--------------------------- -533
Sulfur Dioxide----------------------------- -534
Hydrogen Sulfide--------------------------- -535
Total Hydrocarbons------------------------- -536
Methane------------------------------------ -537
Non-Methane Hydrocarbons------------------- -538
Carbon Monoxide---------------------------- -539
Ozone-------------------------------------- -540
Hourly Total Precipitation----------------- -541
Wind Speed
8 feet---------------------------------- -542
30 feet---------------------------------- -543
100 feet---------------------------------- -544
200 feet---------------------------------- -545
Wind Direction
8 feet---------------------------------- -546
30 feet---------------------------------- -547
100 feet---------------------------------- -548
200 feet---------------------------------- -549

LIST OF TABLES (contd)

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS
Relative Humidity
8 feet---------------------------------- II B-550
30 feet---------------------------------- -551
100 feet---------------------------------- -552
200 feet---------------------------------- -553
Temperature
8 feet---------------------------------- -554
30 feet---------------------------------- -555
100 feet---------------------------------- -556
200 feet---------------------------------- -557
Barometric Pressure---------------------- -558
Solar Radiation-------------------------- -559
Bi-Vane Wind Speed
30 feet---------------------------------- -560
100 feet---------------------------------- -561
200 feet---------------------------------- -562
Horizontal Bi-Vane Wind Direction
30 feet---------------------------------- -563
100 feet---------------------------------- -564
200 feet---------------------------------- -565
Stability Class Determination Using Pyranometer Recording--------------------- -566
Stability Class Determination Using DT/DZ (Level 1)---------------------------- -567
Stability Class Determination Using DT/DZ (Level 2)---------------------------- -580

LIST OF TABLES (contd)

Page

APPENDIX A - STABILITY WIND ROSE DIAGRAMS---------------- II B-594
8 feet level - Stability Class A------------ -597
Class B------------ -598
Class C------------ -599
Class D------------ -600
Class E------------ -601
Class Total-------- -602

30 feet level - Stability Class A------------ -603
Class B------------ -604
Class C------------ -605
Class D------------ -606
Class E------------ -607
Class Total-------- -608

100 feet level - Stability Class A------------ -609
Class B------------ -610
Class C------------ -611
Class D------------ -612
Class E------------ -613
Class Total-------- -614

200 feet level - Stability Class A------------ -615
Class B------------ -616
Class C------------ -617
Class D------------ -618
Class E------------ -619
Class Total-------- -620

Percentage of Occurrence of Wind Direction
8-foot level-------------------------- -621
30-foot level-------------------------- -622
100-foot level-------------------------- -623
200-foot level-------------------------- -624

LIST OF TABLES (contd)

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Relative Humidity

8 feet---------------------------------- II B-550
30 feet---------------------------------- -551
100 feet---------------------------------- -552
200 feet---------------------------------- -553

Temperature

8 feet---------------------------------- -554
30 feet---------------------------------- -555
100 feet---------------------------------- -556
200 feet---------------------------------- -557
Barometric Pressure------------------------ -558
Solar Radiation---------------------------- -559

Bi-Vane Wind Speed

30 feet---------------------------------- -560
100 feet---------------------------------- -561
200 feet---------------------------------- -562

Horizontal Bi-Vane Wind Direction

30 feet---------------------------------- -563
100 feet---------------------------------- -564
200 feet---------------------------------- -565
Stability Class Determination Using Pyranometer Recording--------------------- -566
Stability Class Determination Using DT/DZ (Level 1)--------------------------- -567
Stability Class Determination Using DT/DZ (Level 2)--------------------------- -580

LIST OF TABLES (contd)

Page

APPENDIX A - STABILITY WIND ROSE DIAGRAMS---------------- II B-594
8 feet level - Stability Class A------------ -597
Class B------------ -598
Class C------------ -599
Class D------------ -600
Class E------------ -601
Class Total-------- -602

30 feet level - Stability Class A------------ -603
Class B------------ -604
Class C------------ -605
Class D------------ -606
Class E------------ -607
Class Total-------- -608

100 feet level - Stability Class A------------ -609
Class B------------ -610
Class C------------ -611
Class D------------ -612
Class E------------ -613
Class Total-------- -614

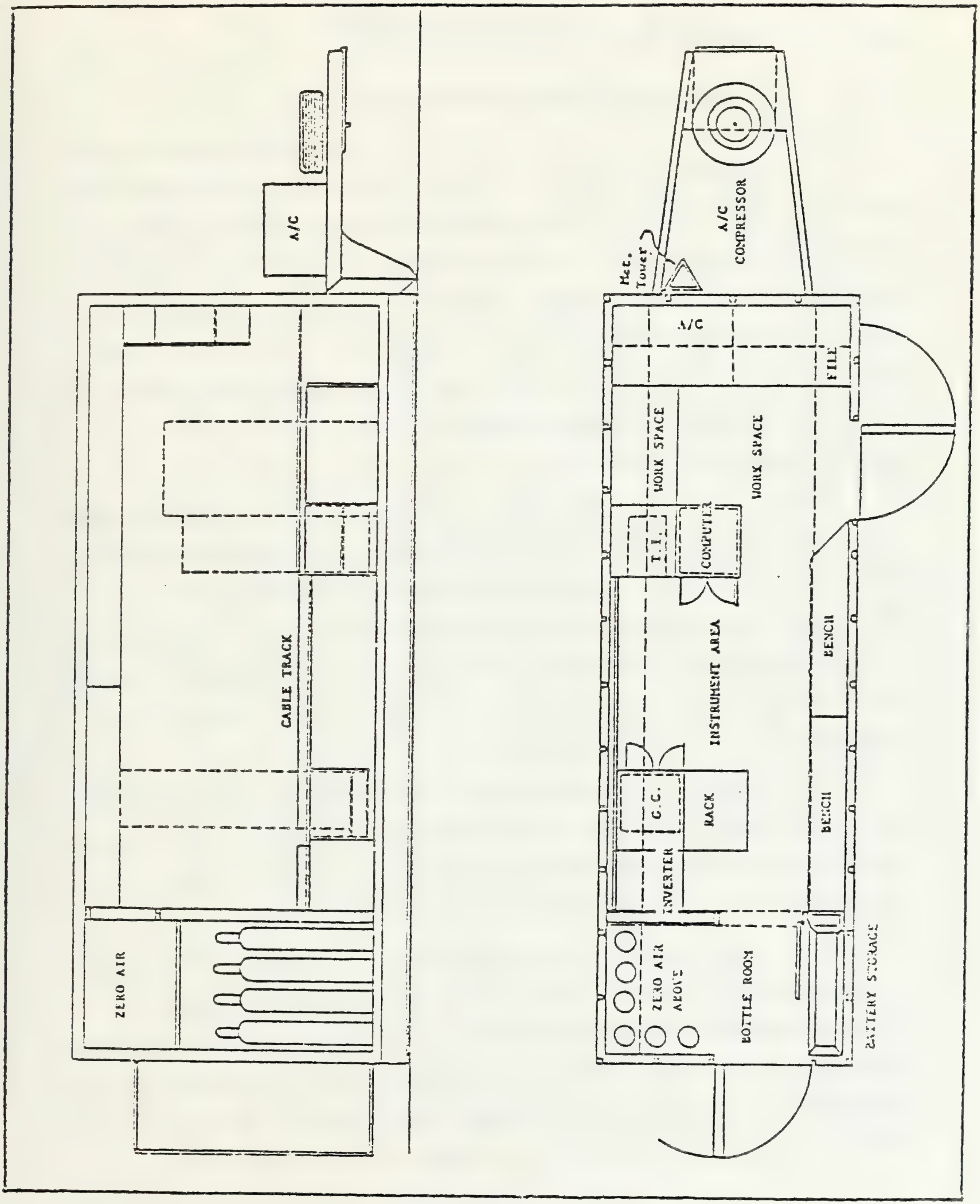
200 feet level - Stability Class A------------ -615
Class B------------ -616
Class C------------ -617
Class D------------ -618
Class E------------ -619
Class Total-------- -620

Percentage of Occurrence of Wind Direction
8-foot level-------------------------- -621
30-foot level-------------------------- -622
100-foot level-------------------------- -623
200-foot level-------------------------- -624

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM

Radian Corporation, under contract to the C-b Oil Shale Project, is performing the data compilation and reporting of air quality and meteorological data at one monitoring site in Northwest Colorado. The site measures and records concentrations of particulates, sulfur dioxide, oxides of nitrogen, hydrogen sulfide, total hydrocarbons, methane, and carbon monoxide. A 200-foot meteorological tower provides wind direction, wind speed, temperature, and relative humidity data at four levels (8, 30, 100, and 200 feet). Other meteorological variables measured at the tower site are insolation, barometric pressure, and precipitation.

Figure I shows the configuration of the monitoring station. The station provides a sturdy and protective covering for the monitoring equipment.


A/C
CABLE TRACK
ZERO AIR
Met. Tower
A/C COMPRESSOR
A/C
FILE
WORK SPACE
WORK SPACE
T.I.
COMPUTER
INSTRUMENT AREA
BENCH
BENCH
G.C.
RACK
INVERTER
ZERO AIR ABOVE
BOTTLE ROOM
BATTERY STORAGE

II. DESCRIPTION OF INSTRUMENT SYSTEMS

A. Air Quality Instrumentation

Nitrogen oxides are measured with a Meloy Model NA520 analyzer. This dual-channel analyzer is based on the chemiluminescent principle and continuously monitors both NO_x and NO. A subtraction circuit in the instrument provides a continuous NO_2 output, but is not used in Radian's system. NO_2 is calculated once a second by the computer by subtracting the NO value from the NO_x value, thus avoiding any drift which might occur in the NO_2 output of the instrument. This instrument has a minimum detectable sensitivity of 5 ppb (parts per billion), and a linearity of ±1%.

Both sulfur dioxide and hydrogen sulfide are measured with Meloy Model SA185 sulfur analyzers. The hydrogen sulfide analyzer uses a Meloy Model NO_x-1 sulfur dioxide scrubber and the sulfur dioxide analyzer uses a Meloy Model H_2S-1 hydrogen sulfide scrubber. The Model SA185 is a continuous analyzer and utilizes the flame photometric principle of operation. The minimum detectable sensitivity is 5 ppb and the linearity of ±1%.

Ozone is measured with a Meloy Model OA350 analyzer. This instrument provides continuous measurement of ozone and is based on the chemiluminescent principle. The minimum detectable sensitivity is 0.5 ppb and the linearity is ±1%.

Total hydrocarbons, methane, and carbon monoxide are monitored with a Bendix Model 8200 gas chromatograph analyzer. This instrument uses a plume ionization detector and has a minimum detectable sensitivity of 5 ppb for all three components. The Model 8200 works on a five-minute cycle, i.e., one air sample is analyzed every five minutes, and the result is displayed for five minutes via a sample and hold circuit.

The air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25mm diameter, and a constant air flow through the system is provided by an air pump rated at 60 cfm at 0" head pressure. The manifold has sampling ports to which 1/4" teflon lines to the instrument are connected. All joints in the sampling system are secured by O-ring compression fittings. The manifold is contained in a heated (100°F) chamber to prevent condensation of moisture. The teflon lines from the manifold to the instruments are insulated with 1/8" wall thickness rubber tubing.

The trailer has four heavy duty high volume particulate samplers (Hi-Vols). Fiberglass filter paper is used for collection of particulate samples and each filter is brought to a controlled humidity before weighing. Each Hi-Vol has a flow recorded to permit correction for changes in air flow as the filter becomes loaded with particulates. Each Hi-Vol runs for a 24-hour period (midnight to midnight) and is turned on and off by the computer. The Hi-Vols were designed following guidelines recommended by the Environmental Protection Agency and were manufactured by Radian.

In addition to the normal Hi-Vol particulate samples, a duplicate Hi-Vol sample is collected every sixth day on special filter paper for trace element analysis. Once each quarter these samples are composited and analyzed for gross radioactivity and trace element content.

B. Calibration Procedures

The trailer contains a Meloy Model RAD-1 calibration unit. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely diluting bottled NO span gas. The calibration of all instruments is automatically performed once a day and is controlled by the computer. Each instrument is first switched to zero; the computer monitors the output of each channel and takes a new zero reading after a stable zero signal has been reached. This zero reading is compared by the computer to the zero reading obtained 24 hours before, and if a drift in excess of 10 ppb has occurred, an excess zero drift light for the channel in question is turned on on the System Status Panel. Next, span gas is supplied to each channel and the computer decides when a stable span value has been reached. This value is recorded and compared to the previous day's value. An excess span drift light on the System Status Panel is turned on if a drift exceeding 10 ppb occurs. The instruments are then returned to the monitor mode and after two minutes the computer resumes data taking.

The bottled NO gas used at each site was obtained from Precision Gas Products. Pre-purified grade hydrogen is used in the SO_2 analyzers.

The SO_2 permeation tubes were manufactured by Metronics Association, Inc. Their output has been verified by comparison to the output of National Bureau of Standards tube 10-42. Both SA185 analyzers in each trailer are calibrated with the SO_2 from the permeation tube. This instrument responds to the number of sulfur atoms per molecule; thus, SO_2 can be used to calibrate both the H_2S and SO_2 monitors.

The Model OA350 ozone analyzer has its own calibration system which provides a zero check and a span check. The ozone calibration system is verified by comparison to a calibrated ozone generator maintained in Radian's laboratory in Rifle.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air, the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

The Hi-Vol particulate samplers were calibrated using a Calibration Kit from General Metal Works.

C. Data Acquisition System

The basis of the data acquisition system is a Data General NOVA 1200 minicomputer. The NOVA, which has a basic cycle time of 1.2 μsec, is equipped with automatic program load and power fail/automatic restart features. The computer utilizes 16K 16-bit words of core memory. Analog-to-digital conversion is accomplished via an ADC built by Radian Corporation. The input/output unit for the system is Texas Instrument's KSR 733 keyboard/printer. This model teletype provides keyboard entry and hard copy printed output. The data are also recorded on a cassette magnetic tape unit with three drives. The cassette unit is utilized for program storage and loading as well as recording. To reduce wear on mechanical parts, the power to the teletype and cassette units is turned on only when the unit(s) is (are) to be used. Several important functions in the instruments as well as in the computer and the trailer are monitored by means of lights on a System Status Panel. These data lights are written onto cassette tape to monitor the complete status of the system every five minutes. The Data Acquisition System also monitors the presence of 100V power from the power lines. In its absence, the computer, which is powered by batteries, switches all trailer

systems to battery-provided power. If the line voltage is restored before the batteries are discharged to a specified level, the trailer system is switched back to line power.

D. Meteorological Instrumentation

200-Foot Meteorological Tower

The tower has instrumentation at four levels: 8 feet, 30 feet, 100 feet, and 200 feet. At all four levels, there are: wind speed, wind direction, and temperature and relative humidity sensors in a power-aspirated radiation shield. Temperature difference thermistors (also in power-aspirated radiation shields) and their associated circuitry take lapse rate measurements for the 30-foot to 100-foot layer and the 30-foot to 200-foot layer. In addition, this site has a Precision Spectral Pyranometer, a barometer, and a tipping bucket rain/snow gage.

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather coaxial cup and damped vane assembly. The prototype model has been in operation for years under the most demanding weather conditions, performing continuously with the utmost reliability. All of the wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery).
- Flow Coefficient: 7.9 feet/Revolution.
- Accuracy: ±0.4 mph or 1% (whichever is greater).

Wind Direction

- Starting Threshold: 0.75 mph.
- Delay Distance: 4 feet (50% recovery).
- Damping Ratio: 0.5 to 0.6.
- Accuracy (540° system): ±1%.
- Range: 0° to 540°.

The relative humidity and temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model 840 Series by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. Ambient air is drawn into the shield and across the sensors at approximately 15 feet per second. This intake air is essentially sampled from a hemispherical space which is approximately 3-inch radius from the tube opening. Speed of the incoming air at the periphery of this hemisphere is approximately 1 mph.

The temperature sensor is comprised of a dual thermistor and resistor network. This circuit provides a linear resistance change with an air temperature change. The relative humidity sensor is placed alongside the temperature elements inside the shield where it is exposed to a constant flow of air. Circulation to both sides of the sensing element produces accurate monitoring with a good response time. The specifications on the sensing elements are as follows:

Temperature

- Accuracy: ±0.25°C.
- Range: -50°C to +50°C.

Humidity

- Accuracy: ±3.0% RH.
- Range: 0% to 100% Relative Humidity.

Measurements of temperature difference are taken for two layers, the 30-foot to 100-foot and the 30-foot to 200-foot layer. The thermistors and circuitry used for these measurements are separate from the thermistors measuring air temperature. The use of separate thermistors and circuitry to measure ΔT allows for much greater accuracy and resolution in the measurements, which is necessary for stability assessments. Two ΔT thermistors are at the 30-foot level, one is at the 100-foot level, and one is at the 200-foot level. All of these ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT instrumentation are as follows:

- Accuracy: ±0.1°C.
- Range of T Circuit (Lower Level-Upper Level): +9F° to -9F°.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The meteorological tower itself is a 200-foot Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with ½" of radial ice per EIA Standard RS-222-B, to

support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12-feet long, three outside work platforms, an inside ladder for climbing, two base ground kits and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specifications.

The signals from the tower instrumentation are fed from multiple signal cables into transmitters mounted at the base of the tower. After signals have been converted to analog signals, they are fed into a junction box, also at the tower base, where they are assimilated into one coaxial cable. The signals are then run underground within 3" PVC conduit to the A-to-D assembly, where they are processed. The transmitters are shielded and insulated from the elements. The signal cable is run underground in PVC conduit in order to minimize damage from the weather or various rodents in the region.

The auxiliary equipment at the tower site consists of a heated tipping bucket rain/snow gage, an analog barometer, and a Precision Spectral Pyranometer. The rain/snow gage is the Model P511-E unit by Weather Measure. In the case of this gage, the durability and reliability of a tipping bucket gage are combined with heavy-duty electric heaters to make this an all-purpose precipitation sensor. This gage may be used to measure snowfall and rainfall. An insulating cover of poly-vinyl chloride and a thermostatic control insure the proper gage temperature. The thermostatic control is adjustable from 0 to 35°C. Snow falling into the inlet funnel is melted. The resulting water (from rain or snow) drains into a precision tipping bucket mechanism which activates a mercury switch each time the bucket fills and tips. The gage is constructed of durable corrosion-resistant materials to provide many years of service. The

specifications for this gage are as follows:

- Orifice: 8 inches.
- Calibration: 0.01 inch.
- Accuracy: 0.5% (Calibrated at 0.5 in/hr).
- Sensor: Chrome-plated tipping buckets.
- Switch: Mercury, 0.1-second closure.
- Heat Control: Thermostat adjustment, 0 to 35°C.

The barometer is the B242 Analog Output Barometer by Weather Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on this instrument, which is mounted inside the monitoring trailer at the site, are as follows:

- Range: Specially designed for the 100 millibar interval from 725 millibars to 825 millibars.
- Resolution: Infinite.
- Linearity: ±0.5 millibar, over the 100 millibar interval.

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 4½ feet from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- Sensitivity: 5 mv. per cal/cm°/min.
- Independence: 300 ohms.
- Temperature dependence: Sensitivity constant to within ±1 percent over the ambient temperature range from -20 to +40°C.

- Linearity: Response linear up to intensities of 4 cal/cm^2/min.
- Response time: 1 second (i/e signal).

All instrumentation is factory-calibrated and is field-calibrated at various intervals. Sling psychrometers are used to calibrate the humidity sensors, known temperatures and/or resistances are used to calibrate the thermistors, and an rpm calibrating unit is used to calibrate the anemometers. The wind direction instrumentation is aligned to true north (reference direction) by means of a surveyor's transit.

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES

The Piceance Creek Valley and C-b Shale Oil Tract are situated such that many microscale meteorological phenomena affect the region where the ambient air monitoring unit is located. Trailer 023 and its associated 200-foot meteorological tower are located atop a plateau to the south of the valley, high enough to be affected mostly by gradient flow conditions.

The elevation at the meteorological tower site (Trailer 023) is 6940 feet above sea level. The largest gradients in elevation in this area, of course, occur at the Piceance Creek Valley walls. However, the northern valley walls are slightly steeper than those at the southern boundary of the valley, which then slopes upward gradually toward the C-b Tract. The Piceance Creek Valley decreases in elevation from east to west in this area, so that nighttime katabatic cold-air drainage flows advect from east to west.

Site 023 is approximately 2.5 miles south of the Piceance Creek Valley. This location is relatively high compared to its surroundings, with the nearest points having elevations greater than 7000 feet being .5 miles to the south of the tower. The tower itself is on the top of a small knoll located between Scandard and Sorghum Gulches. Because of its location and the irregularities of the surrounding terrain, meteorological patterns are varied here.

Wind instrumentation is mounted at four levels of the meteorological tower: 8 feet, 30 feet, 100 feet, and 200 feet. The top level of the tower generally remains in gradient wind flow. That is, the winds at that level are normally generated

by synoptic-scale features and are usually separated from terrain features and micrometeorological circulations. Occasionally, a weak anabatic flow influence is experienced. However, such is not the case with the three lowest measurement levels. To varying degrees, these levels are influenced by both the katabatic and anabatic circulation cells. However, when strong pressure gradient forces exist in the region and the synoptic-scale wind flow is strong, all four tower levels will reflect a gradient wind flow, with the winds increasing in strength with increasing height.

The terrain atop the plateau is generally barren and fairly rugged, with a few scattered small trees. The topsoil dries rapidly and is very fine, resulting in blowing dust when dry, windy conditions exist. In the Piceance Creek Valley, the terrain is fairly grassy and flat, with steep valley walls on either side. Surface winds are normally rather light in this valley unless channelling effects occur.

During clear nights with rather light pressure gradient-induced winds, rapid radiational cooling will occur in the region because of the barren nature of the terrain and the generally dry character of the air in this portion of the country. As a result, the diurnal range of temperatures will be extremely large. Because of the katabatic flow in the valley, nighttime temperatures will generally be lower in the valley than on the plateau. During the winter, especially, temperatures in the valley may be 20°F lower than they are on the plateau during the early morning hours.

IV. OPERATING TIME ANALYSIS FOR EACH SITE

This section presents the operating statistics for each of the major subsystems contained in the monitoring station. Table I shows the specific number of hours that each of these subsystems was inoperative for the month. The column labeled "DIGITIZING SYSTEM" indicates the entire data acquisition system; therefore, downtime hours appearing in this column means total loss of data. These instances include, in addition to computer downtime, power failures, no power available, and self-automated shutdown periods such as during air conditioner malfunctions.

Calibration time is not considered to be downtime and is, therefore, not included in the downtime figures. The amount of time used in calibrating the instruments is given at the bottom of the downtime analysis table and is reported as total calibration hours for each channel for the entire month. As is evident in the calibration figures, channels can be calibrated independently of one another. No calibration time is given for particulate monitoring since Hi-Vol calibration occurs infrequently and only during the off-duty cycle for each Hi-Vol while another Hi-Vol is taking data.

TABLE I.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	DIGITIZING SYSTEM	NOX	NO	SO2	WS	WD	RH	TOUT	PYR	H2S	THC	CH4	CO	O3	PRES	RAIN	PART
12/ 1	0.	8.	8.	0.	0.	2.	0.	0.	0.	0.	5.	5.	1.	1.	0.	0.	0.
12/ 2	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	11.	5.	6.	0.	0.	0.	0.
12/ 3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.	0.	0.	0.	0.	0.
12/ 4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.	1.	0.	0.	0.	0.
12/ 5	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	18.	8.	1.	0.	0.	0.	0.
12/ 6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	11.	11.	0.	13.	0.	0.	0.
12/ 7	0.	0.	0.	0.	0.	0.	13.	0.	0.	0.	11.	11.	0.	9.	0.	0.	0.
12/ 8	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	24.	9.	0.	0.	0.	0.	0.
12/ 9	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.
12/10	0.	0.	0.	0.	0.	2.	24.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.
12/11	0.	2.	2.	0.	0.	0.	24.	0.	0.	0.	22.	0.	0.	0.	0.	0.	0.
12/12	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	24.	0.	0.	0.	0.	0.	24.
12/13	0.	0.	0.	0.	0.	0.	24.	13.	0.	0.	18.	9.	9.	0.	0.	0.	0.
12/14	0.	0.	0.	0.	0.	0.	24.	24.	0.	0.	10.	10.	10.	0.	0.	0.	0.
12/15	0.	0.	0.	0.	0.	1.	24.	24.	0.	0.	3.	3.	0.	0.	0.	0.	0.
12/16	1.	9.	9.	0.	0.	0.	23.	12.	0.	0.	3.	3.	0.	0.	0.	0.	0.
12/17	0.	24.	24.	0.	0.	0.	24.	0.	0.	0.	2.	2.	0.	0.	0.	0.	0.
12/18	0.	10.	10.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/19	0.	0.	0.	0.	0.	1.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/20	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/21	0.	2.	2.	0.	0.	0.	16.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/22	0.	0.	0.	0.	0.	3.	9.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/23	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/24	0.	0.	0.	0.	0.	2.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/25	0.	0.	0.	0.	0.	0.	7.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.
12/26	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/27	0.	0.	0.	0.	0.	1.	14.	0.	0.	0.	6.	6.	0.	0.	0.	0.	0.
12/28	2.	8.	8.	3.	0.	0.	22.	0.	0.	3.	0.	0.	0.	0.	0.	0.	0.
12/29	0.	9.	9.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/30	0.	0.	0.	0.	0.	1.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/31	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CAL TIME		24.	24.	20.	0.	0.	0.	0.	0.	31.	27.	30.	30.	15.	0.	0.	

TABLE I.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	DIGITIZING SYSTEM	WS1	WD1	RH1	TMP1	WS2	WD2	RH2	TMP2	WS3	WD3	RH3	TMP3	WS4	WD4	RH4	TMP4	DT1	DT2
12/ 1	0.	0.	2.	0.	0.	0.	2.	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	14.	10.
12/ 2	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.
12/ 3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/ 4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/ 5	0.	0.	2.	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	24.	0.
12/ 6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/ 7	0.	0.	0.	0.	0.	0.	0.	13.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/ 8	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/ 9	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/10	0.	0.	2.	0.	0.	0.	2.	24.	0.	0.	2.	0.	0.	0.	1.	0.	0.	24.	0.
12/11	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/12	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/13	0.	0.	0.	0.	0.	0.	0.	24.	13.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/14	0.	0.	0.	0.	0.	0.	0.	24.	24.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/15	0.	0.	1.	0.	0.	0.	1.	24.	24.	0.	1.	0.	0.	0.	1.	0.	0.	24.	0.
12/16	1.	0.	0.	0.	0.	0.	0.	23.	12.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.
12/17	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/18	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/19	0.	0.	1.	0.	0.	0.	1.	24.	0.	0.	1.	0.	0.	0.	1.	0.	0.	24.	0.
12/20	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/21	0.	0.	0.	1.	0.	0.	0.	16.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/22	0.	0.	3.	0.	0.	0.	3.	9.	0.	0.	2.	0.	0.	0.	2.	0.	0.	24.	0.
12/23	0.	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/24	0.	0.	2.	0.	0.	0.	2.	6.	0.	0.	2.	0.	0.	0.	2.	0.	0.	24.	0.
12/25	0.	0.	0.	0.	0.	0.	0.	7.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/26	0.	0.	0.	0.	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	0.
12/27	0.	0.	2.	0.	0.	0.	1.	14.	0.	0.	1.	0.	0.	0.	0.	0.	0.	14.	0.
12/28	2.	0.	0.	0.	0.	0.	0.	22.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/29	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	5.	0.	0.	0.
12/30	0.	0.	1.	0.	0.	0.	1.	24.	0.	0.	1.	0.	0.	0.	0.	24.	0.	0.	0.
12/31	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.
CAL TIME		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE I.
DOWNTIME HOURS FOR C-B SHALF OIL PROJECT

SITE 023

DATE	BWS1	HWD1	VWD1	BWS2	HWD2	VWD2	BWS3	HWD3	VWD3	WSD1	WSD2	WSD3	WSD4	HSD1	VSD1	HSD2	VSD2	HSD3	VSD3
12/ 1	0.	1.	24.	0.	1.	0.	0.	1.	0.	4.	3.	2.	2.	1.	24.	3.	0.	3.	0.
12/ 2	0.	0.	23.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	23.	1.	0.	1.	0.
12/ 3	0.	0.	24.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	24.	1.	0.	1.	0.
12/ 4	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	24.	1.	0.	1.	0.
12/ 5	0.	1.	24.	0.	0.	0.	0.	0.	0.	3.	1.	2.	1.	2.	24.	1.	0.	1.	0.
12/ 6	0.	0.	24.	0.	0.	0.	0.	0.	0.	2.	1.	1.	1.	2.	24.	1.	0.	1.	0.
12/ 7	0.	0.	12.	0.	0.	0.	0.	10.	0.	0.	0.	0.	0.	0.	12.	0.	0.	0.	0.
12/ 8	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.	0.	1.	0.	0.	0.
12/ 9	0.	2.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	1.	0.	0.	0.	0.	0.
12/10	0.	2.	0.	0.	1.	0.	0.	0.	0.	3.	3.	3.	3.	3.	0.	2.	0.	1.	0.
12/11	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.	0.	1.	0.	1.	0.
12/12	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	1.	1.	2.	0.	1.	0.	1.	0.
12/13	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/14	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	3.	2.	1.	0.	2.	0.	2.	0.
12/15	0.	3.	0.	0.	1.	0.	0.	0.	0.	2.	2.	2.	2.	3.	0.	1.	0.	1.	0.
12/16	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	0.	0.	0.	1.	0.
12/17	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.	1.	2.	3.	0.	1.	0.	1.	0.
12/18	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.
12/19	0.	1.	0.	0.	1.	0.	0.	1.	0.	2.	1.	2.	3.	1.	0.	2.	0.	2.	0.
12/20	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.	0.	1.	0.	2.	0.
12/21	2.	0.	8.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	8.	0.	0.	0.	0.
12/22	0.	2.	11.	0.	1.	0.	0.	1.	0.	3.	4.	3.	3.	2.	11.	2.	0.	1.	0.
12/23	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/24	0.	1.	0.	0.	1.	0.	0.	1.	0.	2.	3.	3.	2.	2.	0.	2.	0.	2.	0.
12/25	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	0.	1.	0.	1.	0.
12/26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/27	0.	2.	0.	0.	1.	0.	0.	1.	0.	3.	2.	2.	1.	2.	0.	1.	0.	1.	0.
12/28	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	0.	1.	0.	1.	0.
12/29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12/30	0.	2.	0.	0.	1.	0.	0.	0.	0.	1.	1.	1.	1.	2.	0.	1.	0.	0.	0.
12/31	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.
CAL TIME	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

V. MONTHLY METEOROLOGICAL SUMMARY

A. Summary of the Meteorological Conditions over North America during December 1976

December 1976 brought colder than normal temperatures to all sections of the United States east of the Continental Divide. Monthly precipitation totals were much below normal in the western United States. The southeastern United States experienced slightly above normal monthly precipitation totals while all other sections of the country experienced mostly below normal monthly precipitation totals. The long wave circulatory pattern for December featured a mean ridge in the western United States and a long wave trough in the eastern section of the country. The ridge in the West accounted for the below normal precipitation in that section of the country. The southerly location of the storm tracks and polar front jet stream accounted for the below normal precipitation in the northern section of the United States.

The long wave circulation was meridional (north-south) from the 1st through the 12th and from the 24th through the 29th. Zonal (west-east) circulation prevailed from the 13th through the 22nd and on the 30th and 31st.

Extratropical low pressure systems were frequent in the United States during December because of the strength of the polar front jet stream. Numerous low pressure systems developed during the month, affecting primarily the Great Lakes. The dates of occurrence and locations of these low pressure systems are as follows:

7th:	Gulf Coast
8th:	Pacific Northwest
9th:	Northern Great Plains
10th:	Great Lakes
11th:	New England
16th:	Great Lakes
17th:	Great Lakes
20th:	Great Lakes
21st:	New England
22nd:	Great Lakes
23rd:	Great Lakes
26th:	New England, Atlantic Seaboard
27th:	Northern Great Plains
28th:	Great Lakes, Atlantic Seaboard
29th:	Great Lakes, Atlantic Seaboard
30th:	Northern California Coast, New England

On a sectional basis, the following temperature and precipitation anomalies existed during December:

Section	Temperature	Precipitation
Northeast	Much below normal	Slightly below normal
Atlantic Seaboard	Below normal	Below normal
North Central	Below normal	Below normal
Central	Slightly below normal	Much below normal
Southeast	Below normal	Slightly above normal
Southwest	Below normal	Variable; mostly slightly above normal
Rockies	Above normal	Much below normal
West and Pacific Northwest	Near normal	Much below normal

B. Summary of the Meteorological Conditions in Northwestern and West Central Colorado during December 1976

Grand Junction, Colorado, sixty miles to the south-southwest of the Tract C-b, received a total of only 0.01 inch of precipitation during December, which is 0.54 inch below the monthly normal of 0.55 inch. According to the National Weather Service Office in Grand Junction: "This is the 2nd driest December of record. The driest was 1900 with a trace." Grand Junction received 0.1 inch of snow during December. Measurable precipitation ($\geq$.01 inch) occurred on December 5th. The region received 84 percent of the possible monthly sunshine. Sky cover by cloudiness averaged 3.8 out of a possible 10 during the daylight hours and 3.3 out of a possible 10 during the entire month. The region had seventeen clear days, six partly cloudy days, and eight cloudy days during the month.

Air mass changes were infrequent during December. Only two frontal passages occurred during December, which is far below average. This decrease in cold frontal passages was due to the presence of an upper-level ridge over the western United States for most of December. Temperatures in the Tract C-b were cool due to seasonal influences. Transport winds were slightly stronger than those which prevailed during November. A maritime polar cold frontal passage occurred on the 9th and a continental polar cold frontal passage occurred on the 12th.

C. Summary of the Meteorological Conditions in the Oil Shale Tract C-b Region During December 1976

An upper-level ridge over the western United States was responsible for the below-normal precipitation totals and slightly below normal average temperatures which occurred during December. Since a long wave trough was located in the eastern United States, most of the continental polar outbreaks during the month were directed to the east of the Tract C-b into the eastern sections of the country. In addition, the long wave ridge in the western United States prevented most Pacific (maritime polar) fronts from penetrating the western United States. No precipitation occurred in the Tract C-b area during December. Slightly below normal temperatures affected the Tract C-b area, a reflection of the cold air which often stagnates in the Great Basin during the winter months.

A maritime polar cold frontal passage occurred on December 9th and a continental polar cold frontal passage occurred on December 12th. These fronts were fairly mild since the major thrust of the cold air was to the eastern half of the United States.

The monthly average temperatures recorded at the meteorological tower during December 27.4°F at 8 feet; 26.0°F at 30 feet; 27.2°F at 100 feet; and 25.6°F at 200 feet. These averages are approximately 7F° lower than those recorded in November. The warmest days of the month at the meteorological tower were the 2nd, 3rd, 4th, 8th, 9th, 13th, 17th, and 18th. The coolest days were the 6th and 25th. The highest temperature recorded at the meteorological tower during December was 49°F at the 8-foot level on the 17th. The coldest temperature recorded at the meteorological tower was 8°F at the 8- and 30-foot levels on the morning of the 25th. This reading also occurred at the 30-foot level on the morning of the 6th.

Monthly average relative humidities during December were nearly the same as those that prevailed during November. Therefore, since average temperatures were lower in December than in November, the average moisture content of the air was slightly lower during December (in order to maintain the same average relative humidity). At the meteorological tower, the monthly average relative humidities were 52.7 percent at 8 feet; 57.4 percent at 100 feet; and 53.3 percent at 200 feet. These relative humidites correspond to dew points of 12.5°F, 13°F, and 12°F, respectively. The relative humidity sensor at the 30-foot level was inoperative for most of the month. The most humid days of the month were the 1st, 5th, 6th, 10th, and 31st. The driest days were the 16th, 17th, and 18th.

Winds at the meteorological tower during December were only slighly stronger than the winds during November. Resultant wind vectors at the meteorological tower during December were 200.7 degrees at 1.6 miles per hour at 8 feet; 200.4 degrees at 2.3 miles per hour at 30 feet; 206.0 degrees at 2.8 miles per hour at 100 feet; and 214.5 degrees at 3.6 miles per hour at 200 feet. The scalar average wind speeds associated with these resultant wind vectors were 3, 5, 6, and 6 miles per hour, respectively. The Ekman spiral and Ekman effect, i.e., a veering in direction and increase in speed as a function of increasing height above the surface, were evident during December. A reference to the December wind roses for the meteorological tower indicates that the winds at that location were primarily south-southwesterly, with a relatively high frequency of occurrence of southerly and southwesterly winds in addition.

The windiest days of the month at the meteorological tower were the 7th, 8th, 9th, 23rd, 27th, and 31st. The days having the lightest winds were the 11th, 12th, 14th, 16th, 17th, 20th, and 22nd. The highest five-minute average wind speed recorded at the tower during December was 40 miles per hour at the 200-foot level on the 16th. On a diurnal basis, the strongest winds at the tower occurred between 1300 and 1600 hours, when vertical mixing and the downward transfer of momentum were maximized. The winds were lightest during the early morning hours, between 0500 and 0900 hours, when the friction layer was stable.

Precipitation totals in the Tract C-b Monitoring Network during December were generally very much below normal. No precipitation was received at the meteorological tower during December. Only 0.01 inch was received at Grand Junction.

The monthly average station pressure at the meteorological tower during December was 790.5 millibars. This reading is 1.4 millibars lower than the November average station pressure of 791.9 millibars. The highest daily average station pressures occurred on the 1st and 2nd. The lowest daily average station pressures occurred on the 9th, 30th and 31st.

Cloudiness decreased slightly in the Tract C-b region during December, compared to the November cloud cover and insolation statistics. The region received an isolated total of 5680.4 langleys, which is equivalent to a daily average insolation total of 183 langleys/day. This average is slightly below the National Weather Service standard for December of 200 langleys/day in the Tract C-b region. On a diurnal basis, the greatest solar radiation rates occurred between 1200 and 1300 hours. The greatest daily radiation totals were received on the 1st and 20th. The lowest daily solar radiation totals were received on the 5th and 6th. The greatest five-minute radiation total received during

December was 4.75 langleys (a rate of 0.95 langleys/minute), which occurred on the 9th and 10th. The largest hourly insolation total received during December was 50 langleys, which occurred on the 9th between 1100 and 1200 hours. Because of the progressively decreasing solar elevations and the increasingly shorter periods of daylight that prevailed during the first two-thirds of December, the total possible solar radiation which could be received during a day decreased monotonically throughout that period. During the last one-third of December, progressively increasing solar elevations provided for increasingly longer periods of daylight. Thus, the total possible solar radiation which could be received during a day increased monotonically throughout the last one-third of December.

The slight decrease in cloudiness and decrease in insolation which affected the Tract C-b during December caused the unstable stability classes to become less common than they had been in November. Using the Pasquill method of stability determination, "C" stability (slightly unstable) was the most common stability, occurring during 166 daytime hours, or 57.2 percent of the time. In decreasing order of frequency, "D" (neutral) stability occurred during 88 hours or 30.3 percent of the time, and "B" (very unstable) stability occurred during 36 hours, or 12.4 percent of the time. "A" (extremely unstable) stability did not occur.

Using the lapse rate method of stability determination ($\frac{dT}{dz}$), the slightly stable ("E") and extremely stable ("F") stability classes were the most prevalent during December. In general, stable and/or neutral conditions prevailed during the nighttime hours and unstable and/or neutral conditions prevailed during the day. The following table (Table A) is a diurnal breakdown of the various stability classes. As one proceeds from "A" to "F", the stability class ranges from extremely unstable to extremely stable. The column labeled "number of occurrences" indicates the number of times a particular stability class

TABLE A

Level I $(\frac{dT}{dz})$ 30 Feet to 100 Feet

Stability Class/Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:										1	1	2	1												5
B:											3	2	2	3	2	3									15
C:										3						1	2								6
D:	1	1	1					1	1				1	1	2	1	2	3	1	1	1	1			19
E:				2	3	2	2	1	1	2							1	1	2	2	1	2	2	1	25
F:	4	4	4	3	3	3	3	3	3									1	2	2	3	2	3	4	47

Level II $(\frac{dT}{dz})$ 30 Feet to 200 Feet

Stability Class/Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:						1			3	10	14	13	11	10	10	7	7	1	0	2	1	0	0	0	90
B:	2	2	2	3	3	2	2	1	2	5	13	14	14	15	16	19	15	7	6	3	1	1	2	2	142
C:	2	3	1	2	1	1	2	3		3	2	3	4	2	1	3	6	0	2	3	1	4	2	1	52
D:	4	3	5	2	4	4	4	2	4	7	2	1	2	4	3	2	3	14	12	8	9	6	7	7	119
E:	10	8	12	13	8	8	11	13	10	6								9	9	13	14	11	11	8	174
F:	12	14	10	10	14	14	11	11	11										2	2	5	9	9	13	147

A: Extremely unstable
B: Very unstable
C: Slightly unstable
D: Neutral
E: Slightly stable
F: Extremely stable

appeared during the month on an hourly basis. Level I indicates that temperature changes versus height values ($\frac{dT}{dz}$) were considered between 30 feet and 100 feet. Level II indicates that the values of $\frac{dT}{dz}$ were considered between 30 feet and 200 feet. The delta temperature circuitry between the 30- and 100-foot levels was inoperative during most of the first 26 days of December.

Using the standard deviation of the horizontal wind (σ_θ) method of stability determination, "D" stability was the most common stability classification at the meteorological tower because of the moderately strong winds that normally occurred at that location. The stability distributions for the 30-, 100-, and 200-foot levels were similar, with only a slight trend toward increasing stability as a function of increasing height. The 8-foot level of the tower exhibited higher percentages of the unstable classes because of excessive mechanical turbulence.

The bivanes at the 100- and 200-foot levels of the meteorological tower indicated a pattern of upward vertical motion (negative vertical directions) during the month, while the 30-foot level produced no net vertical motion during December. Upward vertical motion was more pronounced during the nighttime and early morning hours at the 30- and 100-foot levels during December (probably because of lower wind speeds), but this diurnal pattern was reversed (i.e., upward motions were less pronounced) at the 200-foot tower level.

The σ_θ values obtained at the 30-, 100-, and 200-foot levels using the bivanes compared favorably with the σ_θ values obtained at those levels using the standard wind instrumentation.

VI. DATA PRESENTATION AND SUMMARY

This section includes summaries for various recorded data at the monitoring sites. The data presentations indicate the variability of pollutant concentrations and meteorological parameters with location and time. In addition, the presentations indicate the functional dependence of pollutant concentration with wind direction. All data except suspended particulates (24-hour samples) are sampled once each second, but recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values, and is especially evident when comparing wind gusts to local weather bureau data.

Inherent to any data acquisition system is random noise both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for all instruments, except for the ozone analyzer, for which it is 0.5 ppb. Therefore, any values appearing in the data presentations that are less than 5 ppb indicate only a trace of pollutant in question and should not be construed to be absolute levels. In addition, the recorded quantity is simply random noise and averages tend toward zero. Thus, when concentrations are below the lower threshold of the analytical instruments they may appear as a zero entry in the data presentation which does not indicate absolute zero concentration.

All pollutant data (except for particulate data) is taken at the monitoring site in integer parts per billion (ppb) but is presented here in micrograms per cubic meter ($\mu g/m^3$)

assuming standard temperature and pressure of 25°C and 760 mmHg (1013.2 millibars), respectively. The scale factors required to convert μg/m³ at standard conditions back to ppb for the various pollutants are given in the following table.

POLLUTANT	TO CONVERT μg/m³ AT 25°C AND 760 mmHg TO ppb MULTIPLY BY
NO_x	.534
NO	.534
NO_2	.534
SO_2	.384
H_2S	.723
THC	1.536
CH_4	1.536
CO	.877
O_3	.512

The units of the meteorological parameters are given in the table. It should be noted here that inside temperature is monitored and recorded as a functional part of the system but is not presented in this report.

Table III displays the monthly statistics for each monitoring station for the month. To insure statistical significance, and to reduce the possibility of introducing a bias in the presentation, averages are computed only when at least 50 percent of the samples are present, except for relative humidity and temperature, in which case 75 percent of the samples is required. If less than the required samples are present for a particular parameter, that entry will be blank. The number of

samples present for a particular channel is defined as the total possible number of five-minute samples for the averaging time less the computer downtime less the channel downtime less the channel calibration time. The averages in Table III are arithmetic averages with the following exceptions:

- Wind speed and wind direction are computed using a vector averaging technique where the wind speed is treated as the vector magnitude.

- Particulate averages are computed as the geometric mean.

Table IV displays the daily averages. Again, 50 percent of the five-minute samples are required in order to compute an average except for the cases of relative humidity and temperature which require 75 percent. A blank entry indicates an insufficient number of five-minute samples present for that day. Wind speed, wind direction, and particulate averages are computed the same way as described in Table III.

Table V presents the maximum daily five-minute average retained in the data base as well as the time of occurrence. A five-minute maximum average is printed if any samples are present for that day. Therefore, the maximum five-minute average for a channel which experienced considerable downtime or calibration time during the day in question may be misrepresentative of the maximum expected for that channel on that day.

Table VI indicates the five largest averages for various averaging times. The table shows the period of time covered by the average. Maxima are chosen so that time segments

are independent. The maximum averages reported are found using a 'sliding average' technique with the exception of the 24-hour particulate average, which is computed from midnight to midnight. For averaging times less than or equal to three hours, the sliding average is stepped one five-minute sample at a time. For longer averaging times the step size is twelve samples or one hour. For averaging times less than or equal to one hour 100 percent of the five-minute samples must be present to compute an average. Averaging times greater than one hour require 90 percent. Whether or not a sliding average is computed is solely determined by the number of samples present in that averaging time and is independent of daily and monthly averaging criteria.

To demonstrate the functional dependence of recorded parameters upon wind direction, Table VII shows pollutant concentration displayed in a bi-variate distribution with wind direction. The tables display the total number of five-minute samples occurring in each concentration and wind speed class. The mean concentration for all samples occurring in each wind class are also shown. This distribution demonstrates the dependence of high pollutant concentrations upon wind direction. Appendix A shows the stability wind rose diagrams.

The wind speed classifications used in Appendix A are based on the Beaufort wind scale classification system. This is a system of estimating and reporting wind speeds, invented in the early nineteenth century by Admiral Beaufort of the British Navy. It was originally based on the effects of various wind speeds on the amount of canvas that a full-rigged frigate of the period could carry, but has since been modified and modernized. In its present form for international meteorological use it equates: (a) Beaufort force (or Beaufort number); (b) wind speed;

(c) descriptive terms; and (d) visible effects upon land objects or the sea surface. One land adaptation is the NRM wind scale.

The six basic wind speed classifications used in the report are: 1-3 knots, 4-6 knots, 7-10 knots, 11-16 knots, 17-21 knots, and winds of greater than 21 knots. The following table is a complete description of the Beaufort Wind Scale, taken from Physical Climatology, by Helmut Landsberg, 1969.

BEAUFORT WIND SCALE FOR OBSERVATIONS AT LAND STATIONS

Force	Explanatory Title	Specification for Use	Corresponding Limits of Wind Speed at 10 meters ab.grd.				
			Mi/hr.	Knots	Km/hr.	M/sec.	Ft/sec.
0	Calm	Smoke rises vertically	<1	<1	<1	0.3	1
1	Light air	Direction of wind shown by smoke drift, but not by wind vanes	1-3	1-3	1-5	0.3-1.5	1-5
2	Light breeze	Wind felt on face:leaves rustle:ordinary vane moved by wind	4-7	4-6	6-11	1.6-3.3	6-11
3	Gentle breeze	Leaves and small twigs in constant motion;wind extends light flat	8-12	7-10	12-19	3.4-5.4	12-18
4	Moderate breeze	Raises dust and loose paper:small branches are moved	13-18	11-16	20-28	5.5-7.9	19-26
5	Fresh breeze	Small trees in leaf begin to sway:wavelets formed on inland waters	19-24	17-21	29-38	8.0-10.7	27-35
6	Strong breeze	Large branches in motion:whistling heard in telegraph wires:umbrellas used with difficulty	25-31	22-27	39-49	10.8-13.8	36-45
7	High wind	Whole trees in motion:inconvenience felt when walking against wind	32-38	28-33	50-61	13.9-17.1	46-56
8	Fresh gale	Breaks twigs off trees:generally impedes progress	39-46	34-40	62-74	17.2-20.7	57-68
9	Strong gale	Slight structural damage occurs (chimney pots and slates removed)	47-54	41-47	75-88	20.8-24.4	69-80
10	Whole gale	Seldom experienced inland:trees uprooted: considerable structural damage occurs	55-63	48-55	89-102	24.5-28.4	81-93
11	Storm	Very rarely experiences:accompanied by widespread damage	64-72	56-63	103-117	28.5-32.6	94-106
12	Hurricane		73-82	64-71	118-133	32.7-36.9	107-121
13			83-92	72-80	134-149	37.0-41.4	122-136
14			93-102	81-89	150-166	41.5-46.1	137-151
15			104-114	90-99	167-183	46.2-50.9	152-166
16			115-125	100-108	184-201	51.0-56.0	167-183
17			126-136	109-118	202-220	56.1-61.2	184-201

Source: Table 36 (p.119) in R.J. List (1951):Smithsonian Meteorological Tables:Smithsonian Miscell.Coll.Vol. 114.

Table VIII demonstrates the diurnal variation of various recorded parameters. Hourly averages are determined by arithmetically averaging five-minute samples, except for wind direction averages which are computed vectorially assuming unit vector magnitudes. Totals in the diurnal wind direction tables are vector averages of the columns and rows. For all parameters, a blank entry in the diurnal variation table indicates that less than half (i.e., less than 6) of the five-minute samples for that hour are present.

All times given in the data presentation are Mountain Standard Time.

To facilitate comparison of recorded concentrations to ambient air quality standards, the following regulations are presented.

TABLE II

FEDERAL AND COLORADO STANDARDS

	Primary	Secondary	Non-Designated Area	Designated Area		
				1973	1976	1980
Particulate						
Annual G. M.	75 μg/m³	60 μg/m³	45 μg/m³	70 μg/m³	55 μg/m³	45 μg/m³
24 Hr. Max.*	260	150	150	200	180	150
Sulfur Oxides						
Annual	80(.03ppm)		--	60(.02ppm)	25(.009ppm)	10(.004ppm)
24 Hr. Max.*	365(.14ppm)		15(.005ppm)	300(.1ppm)	150(.05ppm)	55(.02ppm)
3 Hr. Max.*	--	1300(.5ppm)	--	--	--	--
1 Hr. Max.**	--	--	--	800(.28ppm)	300(.1ppm)	--
Oxidant						
1 Hr. Max.*	160(.08ppm)	160				
8 Hr. Max.*	--	--				
Annual	--	--				
Hydrocarbons						
3 Hr. Max.* 6-9 a.m.	160(.24ppm)	160				
Carbon Monoxide						
Max. 8 Hrs.*	10000(9ppm)	10000				
Max. 1 Hr.*	40000(35ppm)	40000				
Nitrogen Dioxide						
Annual	100(.05ppm)	100				

Units are micrograms per cubic meter and ppm in parenthesis.

*Not to be exceeded more than once per year.

**Not to be exceeded more than once per month.

TABLE III
AVERAGES FOR DECEMBER 1 THRU 31

```
                  TABLE III, AVERAGES FOR DEC    1 THRU 31
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
          TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
          PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

      NITROGEN OXIDES(NOX)                 NITRIC OXIDE(NO)                 NITROGEN DIOXIDE(NO2)

  SITE    023                              023                              023
          2,7                              1,1                              1,7
--------------------------------------------------------------------------------------------------

      SULFUR DIOXIDE(SO2)                  PYRANOMETER                       HYDROGEN SULFIDE

  SITE    023                              023                              023
           ,1                           5680,4                               ,5
--------------------------------------------------------------------------------------------------

      TOTAL HYDROCARBONS                      METHANE                    NON-METHANE HYDROCARBONS

  SITE    023                              023                              023
      1055.2                             979,3                            118,8
--------------------------------------------------------------------------------------------------

       CARBON MONOXIDE                          OZONE                     BAROMETRIC PRESSURE

  SITE    023                              023                              023
       431,8                              66,7                            790,5
--------------------------------------------------------------------------------------------------

      TOTAL PRECIPITATION                  PARTICULATE

  SITE    023                              023
          .00                              4,1
--------------------------------------------------------------------------------------------------
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                    TABLE III, AVERAGES FOR DEC    1 THRU 31
   (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                    WIND SPEED

SITE 023
     (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
       1.6                   2.3                   2.8                   3.6
-------------------------------------------------------------------------------------

                                  WIND DIRECTION

SITE 023
     (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
      200.7                 200.4                 206.0                 214.5
-------------------------------------------------------------------------------------

                                 RELATIVE HUMIDITY

SITE 023
     (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
       52.7                                        57.4                  53.3
-------------------------------------------------------------------------------------

                                    TEMPERATURE

SITE 023
     (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
       27.4                  26.0                  27.2                  25.6
-------------------------------------------------------------------------------------
```

TABLE IV
DAILY AVERAGES FOR DECEMBER 1 THRU 31

CORPORATION

TABLE IV, DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	NITROGEN OXIDES(NOX)	NITRIC OXIDE(NO)	NITROGEN DIOXIDE(NO2)
SITE	023	023	023
DATE			
12/ 1			
12/ 2	7.3	2.5	4.8
12/ 3	6.2	.0	6.2
12/ 4	2.0	2.0	.0
12/ 5	2.3	2.3	.0
12/ 6	.7	.7	.0
12/ 7	1.0	1.0	.0
12/ 8	.4	.4	.0
12/ 9	.3	.3	.0
12/10	1.7	.3	1.4
12/11	6.2	.0	6.2
12/12	7.9	.0	7.9
12/13	5.4	.1	5.3
12/14	.4	.3	.1
12/15	.0	.0	.0
12/16	.0	.0	.0
12/17			
12/18	.0	.0	.0
12/19	.0	.0	.0
12/20	.0	.0	.0
12/21	.6	.2	.4
12/22	.1	.0	.1
12/23	.0	.0	.0
12/24	.0	.0	.0
12/25	1.7	.0	1.7
12/26	2.0	.0	2.0
12/27	.2	.2	.0
12/28	5.0	.7	4.3
12/29	28.8	28.7	.1
12/30	.2	.1	.1
12/31	4.5	.0	4.5

TABLE IV, DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	SULFUR DIOXIDE(SO2)	PYRANOMETER	HYDROGEN SULFIDE
SITE DATE	023	023	023
12/ 1	,0	241,6	
12/ 2	,3	217,2	1,4
12/ 3	1,1	147,5	,0
12/ 4	,1	138,3	,3
12/ 5	,1	73,3	,3
12/ 6	,0	82,5	,0
12/ 7	,1	152,7	,4
12/ 8	,0	218,6	,2
12/ 9	,4	220,2	,1
12/10	,1	147,6	,0
12/11	,2	219,3	,0
12/12	,0	215,2	,0
12/13	,0	217,1	,0
12/14	,0	207,0	,0
12/15	,0	206,8	,1
12/16	,0	189,9	,0
12/17	,0	213,5	,0
12/18	,0	193,4	,0
12/19	,0	212,8	,0
12/20	,0	237,9	,0
12/21	,1	215,0	,5
12/22	,2	185,6	,2
12/23	,0	141,6	,0
12/24	,0	114,8	,0
12/25	,0	215,3	,0
12/26	,0	208,6	,0
12/27	,0	204,1	,0
12/28	,0	168,6	,2
12/29	,0	201,2	4,4
12/30	,0	149,2	4,6
12/31	,0	125,0	2,1

TABLE IV. DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	TOTAL HYDROCARBONS	METHANE	NON-METHANE HYDROCARBONS
SITE	023	023	023
DATE			
12/ 1	1098.9	978.3	120.6
12/ 2		1013.4	
12/ 3		952.0	
12/ 4		951.9	
12/ 5		989.6	
12/ 6			
12/ 7	1405.8	1261.2	144.7
12/ 8		1164.8	
12/ 9		1140.8	
12/10		1165.8	
12/11		1156.7	
12/12		1152.4	
12/13		1137.3	
12/14	893.0	804.4	88.6
12/15	977.9	865.6	112.3
12/16	1033.1	910.6	122.5
12/17	982.6	907.4	75.2
12/18	917.6	903.9	13.7
12/19	950.2	938.6	11.6
12/20	941.7	922.8	18.9
12/21	1124.2	911.1	213.1
12/22	1123.0	923.3	199.7
12/23	1033.7	907.9	125.9
12/24	1049.7	919.6	130.2
12/25	1045.7	923.4	122.2
12/26	1018.4	915.9	102.4
12/27	1023.7	912.2	111.5
12/28	1026.6	914.4	112.2
12/29	1034.7	912.0	122.7
12/30	1054.2	911.1	143.1
12/31	1070.7	919.6	151.2

TABLE IV, DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	CARBON MONOXIDE	OZONE	BAROMETRIC PRESSURE
SITE DATE	023	023	023
12/ 1	454.5	87.6	798.3
12/ 2	470.6	68.8	797.0
12/ 3	721.5	51.5	791.7
12/ 4	840.3	65.6	786.4
12/ 5	561.7	58.5	786.1
12/ 6	669.0		790.7
12/ 7	964.7	66.4	791.3
12/ 8	836.2	62.5	789.3
12/ 9	546.8	60.4	784.3
12/10	495.2	60.1	792.8
12/11	500.1	68.0	794.2
12/12	531.3	62.4	795.0
12/13	459.7	72.2	793.8
12/14	390.7	72.0	792.3
12/15	304.3	69.0	795.2
12/16	260.4	70.2	795.5
12/17	227.4	68.3	789.8
12/18	231.0	68.0	788.8
12/19	244.1	61.1	792.9
12/20	253.8	65.3	795.3
12/21	274.9	73.1	790.1
12/22	256.2	72.1	790.1
12/23	293.3	73.6	787.9
12/24	258.2	64.6	784.2
12/25	493.6	64.6	792.9
12/26	718.5	65.9	794.3
12/27	383.4	67.2	787.2
12/28	244.4	70.3	791.5
12/29	174.6	68.8	785.1
12/30	131.1	62.3	780.1
12/31	177.9	70.5	780.3

```
                    TABLE IV, DAILY AVERAGES FOR DEC   1 THRU 31
       (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
            TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
            PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

       TOTAL PRECIPITATION                 PARTICULATE

    SITE   023                             023
DATE
----------------------------------------------------------------------------------------------
12/ 1                                      5.0
12/ 2                                      4.0
12/ 3                                      7.0
12/ 4                                      4.0
12/ 5                                      6.0
12/ 6                                      1.0
12/ 7                                      3.0
12/ 8                                      2.0
12/ 9                                      3.0
12/10                                      4.0
----------------------------------------------------------------------------------------------
12/11                                      1.0
12/12
12/13                                      3.0
12/14                                     17.0
12/15                                     11.0
12/16                                      4.0
12/17                                     10.0
12/18                                      2.0
12/19                                      5.0
12/20                                      4.0
----------------------------------------------------------------------------------------------
12/21                                      6.0
12/22                                     14.0
12/23                                      8.0
12/24                                      2.0
12/25                                      2.0
12/26                                      1.0
12/27                                     15.0
12/28                                      3.0
12/29                                      6.0
12/30                                      3.0
----------------------------------------------------------------------------------------------
12/31                                      7.0
```

TABLE IV. DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
12/ 1	.1	.4	.7	1.3
12/ 2	1.9	3.0	3.8	4.3
12/ 3	.9	1.3	1.5	2.3
12/ 4	2.2	2.9	3.3	4.1
12/ 5	1.7	2.7	3.4	4.5
12/ 6	1.2	2.0	2.8	3.6
12/ 7	4.1	5.7	7.5	9.6
12/ 8	5.3	7.2	9.6	12.5
12/ 9	5.6	7.4	9.1	10.7
12/10	1.8	3.0	3.6	4.3
12/11	.9	1.1	.8	.7
12/12	1.1	1.6	1.3	1.3
12/13	3.2	4.6	5.5	6.5
12/14	.1	.4	.2	.5
12/15	.9	1.1	1.4	1.3
12/16	.6	.7	.7	.8
12/17	.6	.9	.8	.5
12/18	1.9	2.7	3.0	3.4
12/19	1.4	2.0	2.7	2.9
12/20	.4	.5	.1	.1
12/21	2.2	3.2	3.5	3.8
12/22	.3	.3	.3	.6
12/23	4.6	6.2	8.2	10.1
12/24	1.9	2.6	3.2	3.8
12/25	1.7	2.7	3.7	5.0
12/26	2.9	4.3	6.3	8.4
12/27	3.5	4.8	6.1	7.5
12/28	.8	1.7	2.8	4.2
12/29	2.3	3.6	5.9	8.2
12/30	1.5	2.4	3.3	4.8
12/31	5.1	7.1	8.6	10.3

TABLE IV, DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND DIRECTION

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
12/ 1	260.6	247.3	278.8	318.0
12/ 2	175.0	175.5	184.1	197.9
12/ 3	109.3	121.7	159.3	201.3
12/ 4	192.9	194.9	199.8	205.6
12/ 5	295.7	296.4	316.4	325.8
12/ 6	176.5	176.7	181.7	190.6
12/ 7	185.3	185.3	189.5	197.0
12/ 8	179.5	179.5	186.4	193.5
12/ 9	206.9	210.2	213.9	217.2
12/10	301.0	303.7	322.0	329.3
12/11	234.8	237.9	263.5	259.9
12/12	252.2	253.1	283.1	286.9
12/13	179.5	175.7	180.2	192.1
12/14	175.6	158.2	146.4	228.7
12/15	273.7	271.5	301.4	309.8
12/16	265.3	265.5	327.7	348.4
12/17	243.7	267.1	305.0	311.5
12/18	191.8	186.3	189.1	200.5
12/19	304.3	303.9	319.4	338.9
12/20	195.6	191.6	219.3	308.6
12/21	175.4	171.8	180.7	199.7
12/22	246.8	209.3	33.1	67.7
12/23	187.4	186.5	193.8	203.5
12/24	266.1	264.2	272.6	270.6
12/25	178.1	174.9	180.4	193.4
12/26	166.4	165.8	178.6	192.9
12/27	236.2	245.1	250.7	253.2
12/28	186.5	177.5	195.4	213.1
12/29	163.5	166.0	183.3	199.2
12/30	242.3	233.2	233.5	234.4
12/31	201.4	202.1	205.7	212.3

TABLE IV, DAILY AVERAGES FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

RELATIVE HUMIDITY

SITE 023

DATE	(6-FT)	(30-FT)	(140-FT)	(200-FT)
12/ 1	68.2	73.7	76.3	71.8
12/ 2	47.9	52.2	52.3	47.5
12/ 3	46.4	50.0	50.2	46.6
12/ 4	49.4	53.4	54.3	51.1
12/ 5	78.9	84.5	88.7	86.5
12/ 6	76.1	82.3	86.6	82.0
12/ 7	59.0		67.9	62.9
12/ 8	54.7		61.7	57.5
12/ 9	49.3		56.6	53.3
12/10	78.5		88.7	85.0
12/11	60.3		65.8	59.1
12/12	56.1		60.4	54.9
12/13	45.0		49.9	45.5
12/14	44.9		49.4	45.1
12/15	47.0		51.4	46.6
12/16	40.0		44.1	39.5
12/17	38.7		43.0	39.0
12/18	35.8		40.1	36.6
12/19	48.3		53.4	49.3
12/20	54.1		59.7	55.4
12/21	41.3		44.0	40.4
12/22	45.7		47.1	43.0
12/23	43.0		45.0	41.7
12/24	54.1		57.9	55.3
12/25	61.8		61.8	57.3
12/26	51.3		53.1	50.4
12/27	48.4		50.7	48.2
12/28	53.8		53.9	50.5
12/29	42.0		43.2	40.4
12/30	46.4		49.9	
12/31	66.8		71.1	

TABLE IV, DAILY AVERAGES FOR DEC 1 THRU 31

(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
12/ 1	21.7	20.9	21.5	19.1
12/ 2	32.0	30.7	32.3	30.8
12/ 3	33.3	32.2	33.8	31.9
12/ 4	32.8	31.2	32.4	30.5
12/ 5	22.7	20.5	21.6	18.9
12/ 6	19.1	16.5	18.0	15.4
12/ 7	29.4	27.3	27.7	25.2
12/ 8	34.9	34.0	34.6	32.5
12/ 9	35.3	33.9	34.1	32.1
12/10	22.1	20.2	21.2	18.7
12/11	23.9	23.0	24.6	22.8
12/12	27.8	27.7	29.3	27.9
12/13	33.6		34.5	32.8
12/14	30.6		32.2	30.7
12/15	26.9		28.5	27.1
12/16	31.2		33.0	31.9
12/17	32.1	31.8	33.3	32.2
12/18	32.7	31.9	33.4	31.9
12/19	22.7	21.1	22.8	21.0
12/20	21.6	19.7	21.7	19.7
12/21	26.6	25.4	26.4	25.0
12/22	23.5	22.9	23.5	22.9
12/23	28.3	26.8	26.7	25.5
12/24	24.4	22.4	21.9	20.3
12/25	20.1	18.5	19.0	17.8
12/26	30.4	29.4	29.2	28.2
12/27	31.1	29.9	29.2	28.1
12/28	23.0	23.1	23.9	22.9
12/29	28.1	27.8	28.6	26.9
12/30	23.9	22.9	22.6	20.8
12/31	24.0	22.8	22.6	21.4

TABLE V
MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DECEMBER 1 THRU 31

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   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC    1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        NITROGEN OXIDES(NOX)

    SITE      023
DATE
-----------------------------------------------------------------------------------------------------
12/ 1       134.8(11:20)
12/ 2       134.8(16:25)
12/ 3        31.8( 6:30)
12/ 4         9.4(19:20)
12/ 5         9.4( 1:25)
12/ 6         9.4(10:25)
12/ 7         7.5( 0:35)
12/ 8         5.6( 2:20)
12/ 9         5.6(21:40)
12/10         9.4(23:55)
-----------------------------------------------------------------------------------------------------
12/11        13.1(14:20)
12/12        13.1( 2:15)
12/13        15.0(14:10)
12/14         5.6( 0:50)
12/15         5.6( 9:55)
12/16         1.9(12:40)
12/17
12/18          .0(10:15)
12/19          .0( 0:05)
12/20          .0( 0:05)
-----------------------------------------------------------------------------------------------------
12/21        31.8(11:05)
12/22         5.6(10:40)
12/23          .0( 0:00)
12/24          .0( 0:00)
12/25         5.6(14:35)
12/26         5.6( 0:20)
12/27        35.6(13:10)
12/28       642.2(13:45)
12/29       325.8( 9:00)
12/30        16.9( 9:20)
-----------------------------------------------------------------------------------------------------
12/31        22.5( 7:20)
```

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITRIC OXIDE(NO)

DATE	SITE 023
12/ 1	18,7(2:40)
12/ 2	131,1(16:25)
12/ 3	,0(0:00)
12/ 4	9,4(19:20)
12/ 5	9,4(1:25)
12/ 6	9,4(10:25)
12/ 7	7,5(0:35)
12/ 8	5,6(2:20)
12/ 9	5,6(21:40)
12/10	7,5(7:45)
12/11	,0(0:00)
12/12	,0(0:00)
12/13	5,6(20:05)
12/14	5,6(0:50)
12/15	1,9(9:55)
12/16	,0(0:05)
12/17	
12/18	,0(10:15)
12/19	,0(0:05)
12/20	,0(0:05)
12/21	20,6(12:05)
12/22	,0(0:00)
12/23	,0(0:00)
12/24	,0(0:00)
12/25	,0(0:00)
12/26	,0(0:00)
12/27	35,6(13:10)
12/28	37,4(13:45)
12/29	325,8(9:00)
12/30	16,9(9:20)
12/31	,0(0:00)

CORPORATION

```
   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              NITROGEN DIOXIDE(NO2)

    SITE      023
DATE
-------------------------------------------------------------------------------------------
12/ 1        134.8(11:20)
12/ 2         37.4( 8:40)
12/ 3         31.8( 6:30)
12/ 4           .0( 0:00)
12/ 5          1.9(15:30)
12/ 6           .0( 0:00)
12/ 7           .0( 0:00)
12/ 8           .0( 0:00)
12/ 9           .0( 0:00)
12/10          9.4(23:55)
-------------------------------------------------------------------------------------------
12/11         13.1(14:20)
12/12         13.1( 2:15)
12/13         15.0(14:10)
12/14          3.7( 3:05)
12/15          3.7( 9:55)
12/16          1.9(12:40)
12/17
12/18           .0(10:15)
12/19           .0( 0:05)
12/20           .0( 0:05)
-------------------------------------------------------------------------------------------
12/21         31.8(11:05)
12/22          5.6(10:40)
12/23           .0( 0:00)
12/24           .0( 0:00)
12/25          5.6(14:35)
12/26          5.6( 0:20)
12/27           .0( 0:05)
12/28        604.7(13:45)
12/29         13.1(13:40)
12/30         11.2(21:40)
-------------------------------------------------------------------------------------------
12/31         22.5( 7:20)
```

CORPORATION

```
      TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
           TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
           PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                      SULFUR DIOXIDE(SO2)

    SITE      023
DATE
------------------------------------------------------------------------------------------------
12/ 1          .0( 0:00)
12/ 2         5.2(20:45)
12/ 3         5.2( 0:00)
12/ 4        28.7(10:35)
12/ 5        26.0(10:25)
12/ 6          .0( 0:00)
12/ 7        36.5( 9:50)
12/ 8         2.6( 3:10)
12/ 9        91.2(10:45)
12/10         2.6( 1:45)
------------------------------------------------------------------------------------------------
12/11         2.6( 0:15)
12/12          .0( 0:00)
12/13          .0( 0:00)
12/14          .0( 0:05)
12/15          .0( 0:05)
12/16          .0( 0:05)
12/17          .0( 0:00)
12/18          .0( 0:05)
12/19          .0( 0:05)
12/20         2.6( 3:45)
------------------------------------------------------------------------------------------------
12/21         2.6(14:45)
12/22        49.5(11:05)
12/23          .0( 0:00)
12/24          .0( 0:00)
12/25          .0( 0:00)
12/26          .0( 0:00)
12/27          .0( 0:05)
12/28          .0( 0:00)
12/29          .0( 0:00)
12/30          .0( 0:00)
------------------------------------------------------------------------------------------------
12/31          .0( 0:00)
```

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   TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              PYRANOMETER

     SITE      023
DATE
-----------------------------------------------------------------------------------------
12/ 1       3,60(10:15)
12/ 2       3,35(11:15)
12/ 3       3,85(12:20)
12/ 4       3,15(10:45)
12/ 5       1,95(13:50)
12/ 6       1,85(12:20)
12/ 7       3,25(12:15)
12/ 8       3,25(11:30)
12/ 9       4,75(12:10)
12/10       4,75(11:55)
-----------------------------------------------------------------------------------------
12/11       3,20(10:40)
12/12       3,20(11:25)
12/13       3,25(11:30)
12/14       3,15(11:30)
12/15       3,40(11:30)
12/16       3,40(11:25)
12/17       3,20(11:40)
12/18       4,00(13:10)
12/19       3,20(11:35)
12/20       3,25(11:00)
-----------------------------------------------------------------------------------------
12/21       3,25(11:45)
12/22       3,25(11:45)
12/23       3,20(13:40)
12/24       2,95(13:15)
12/25       3,15(11:40)
12/26       3,15(12:00)
12/27       3,25(11:55)
12/28       3,20(11:45)
12/29       3,40(12:30)
12/30       3,70(13:55)
-----------------------------------------------------------------------------------------
12/31       3,85(13:20)
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   TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                 HYDROGEN SULFIDE

    SITE      023
DATE
-----------------------------------------------------------------------------------------
12/ 1          8,3(21:30)
12/ 2          6,9(16:20)
12/ 3           ,0( 0:00)
12/ 4         27,7(10:35)
12/ 5         15,2(10:25)
12/ 6          6,9(10:35)
12/ 7          9,7( 9:50)
12/ 8          2,8( 3:50)
12/ 9         19,4(10:45)
12/10           ,0( 0:00)
-----------------------------------------------------------------------------------------
12/11           ,0( 0:00)
12/12           ,0( 0:00)
12/13           ,0( 0:00)
12/14           ,0( 0:05)
12/15          1,4(10:40)
12/16          1,4( 2:45)
12/17           ,0( 0:00)
12/18           ,0( 0:05)
12/19           ,0( 0:05)
12/20          1,4(13:00)
-----------------------------------------------------------------------------------------
12/21          5,5(14:45)
12/22          9,7(11:05)
12/23           ,0( 0:00)
12/24          1,4(14:30)
12/25          1,4(12:45)
12/26          1,4( 0:20)
12/27           ,0( 0:05)
12/28          2,8(23:20)
12/29         12,5(22:40)
12/30         12,5( 3:35)
-----------------------------------------------------------------------------------------
12/31          5,5( 0:20)
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   TABLE V, MAXIMJM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              TOTAL HYDROCARBONS

   SITE      023
DATE
------------------------------------------------------------------------------------------
12/ 1       1757,7( 9:45)
12/ 2       3254,2(19:05)
12/ 3
12/ 4
12/ 5       1198,9(11:00)
12/ 6       3254,2(14:25)
12/ 7       1531,7( 7:55)
12/ 8       1184,6( 7:05)
12/ 9
12/10
------------------------------------------------------------------------------------------
12/11       1161,1(10:30)
12/12
12/13       1153,3( 6:30)
12/14        928,7(12:45)
12/15       1781,8(23:30)
12/16       2597,8(14:50)
12/17       1329,8( 1:30)
12/18       1148,1(10:30)
12/19       1501,1(18:00)
12/20       1736,8(16:25)
------------------------------------------------------------------------------------------
12/21       2558,0( 9:30)
12/22       3251,6(11:55)
12/23       1938,7(22:00)
12/24       1808,5( 5:55)
12/25       1490,0( 8:00)
12/26       1772,0( 0:40)
12/27       2106,1( 5:05)
12/28       1100,6(13:20)
12/29       1172,2(11:50)
12/30       1098,6( 1:00)
------------------------------------------------------------------------------------------
12/31       1561,6(17:05)
```

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   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
    TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                   METHANE

     SITE      023
DATE
----------------------------------------------------------------------------------------
12/ 1      1030.2(13:40)
12/ 2      1243.8(16:40)
12/ 3      1208.7( 0:20)
12/ 4      1449.0( 6:55)
12/ 5      1488.7( 5:55)
12/ 6      1377.4(11:25)
12/ 7      1332.4( 7:45)
12/ 8      2291.7(13:55)
12/ 9      1213.2(18:10)
12/10      1921.1(20:55)
----------------------------------------------------------------------------------------
12/11      1198.9(15:15)
12/12      1198.9(13:50)
12/13      1153.3( 6:30)
12/14       842.7(12:25)
12/15       992.5(11:20)
12/16      2597.8(14:50)
12/17      1245.2(12:35)
12/18       990.5( 2:35)
12/19      1501.1(18:00)
12/20       957.3(12:55)
----------------------------------------------------------------------------------------
12/21       941.7(14:55)
12/22      1656.1(23:05)
12/23       924.1(22:50)
12/24      1064.1( 4:05)
12/25      1066.7(17:40)
12/26      1772.0( 0:40)
12/27      1028.9(17:55)
12/28       967.1(15:55)
12/29       957.3(11:35)
12/30       944.3(23:05)
----------------------------------------------------------------------------------------
12/31       943.0( 0:00)
```

CORPORATION

```
   TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                         NON-METHANE HYDROCARBONS

    SITE      023
DATE
-------------------------------------------------------------------------------------------
12/ 1       761.9( 9:45)
12/ 2      2132.8(19:05)
12/ 3
12/ 4
12/ 5       190.8(11:00)
12/ 6      1923.1(14:25)
12/ 7       251.4(11:30)
12/ 8          .0( 7:05)
12/ 9
12/10
-------------------------------------------------------------------------------------------
12/11          .0(10:00)
12/12
12/13          .0( 4:00)
12/14       119.8(20:10)
12/15       883.1(23:30)
12/16       974.9(15:20)
12/17       425.3( 1:30)
12/18       232.5(10:30)
12/19       268.3( 9:25)
12/20       816.0(16:25)
-------------------------------------------------------------------------------------------
12/21      1688.0(11:25)
12/22      2335.3(12:10)
12/23      1025.7(22:00)
12/24       921.5( 5:55)
12/25       577.0( 8:00)
12/26       211.6(11:20)
12/27      1207.4( 5:05)
12/28       184.3(13:20)
12/29       222.7(11:50)
12/30       195.4( 1:00)
-------------------------------------------------------------------------------------------
12/31       639.5(17:05)
```

CORPORATION

```
   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
         TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
         PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        CARBON MONOXIDE

     SITE      023
DATE
-----------------------------------------------------------------------------------------------
12/ 1      5054.4( 5:50)
12/ 2      1202.3( 1:50)
12/ 3       896.9( 0:05)
12/ 4      1079.3(11:15)
12/ 5      5138.7(12:20)
12/ 6      2761.4(12:00)
12/ 7      2421.8( 3:40)
12/ 8      4519.9(16:10)
12/ 9       756.7(10:40)
12/10       639.3(17:05)
-----------------------------------------------------------------------------------------------
12/11      2337.4(15:15)
12/12      4709.0(15:35)
12/13       612.0(12:35)
12/14      2092.4(19:45)
12/15      5555.8( 2:05)
12/16      3363.1( 5:05)
12/17      2059.4(13:20)
12/18      3116.9(21:35)
12/19      4264.6(20:40)
12/20      1976.2(12:50)
-----------------------------------------------------------------------------------------------
12/21      2399.0(19:05)
12/22       590.3(21:35)
12/23      3985.4(21:40)
12/24      3205.8(14:40)
12/25      5517.1(15:25)
12/26      1798.4( 4:40)
12/27      2788.7( 3:05)
12/28       411.4(16:25)
12/29       678.1( 9:15)
12/30       183.5(19:25)
-----------------------------------------------------------------------------------------------
12/31      4748.9( 6:00)
```

```
   TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
     TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
     PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              OZONE

    SITE      023
DATE
------------------------------------------------------------------------------------------
12/ 1        99.6( 0:55)
12/ 2        87.9( 0:15)
12/ 3        72.3(12:35)
12/ 4        80.1(14:50)
12/ 5        74.2( 0:20)
12/ 6        82.1(10:40)
12/ 7        95.7( 9:00)
12/ 8        70.3( 2:55)
12/ 9        76.2(14:45)
12/10        74.2(23:30)
------------------------------------------------------------------------------------------
12/11        80.1( 4:00)
12/12        68.4( 3:10)
12/13        87.9(20:35)
12/14        84.0( 4:50)
12/15        80.1(13:10)
12/16        82.1(14:10)
12/17        74.2(23:45)
12/18        76.2( 5:45)
12/19        70.3(14:45)
12/20        78.1(23:25)
------------------------------------------------------------------------------------------
12/21        80.1( 1:10)
12/22        84.0(13:45)
12/23        82.1(11:30)
12/24        70.3( 5:55)
12/25        72.3(11:25)
12/26        72.3( 9:15)
12/27        78.1(13:55)
12/28        82.1(10:50)
12/29        74.2( 2:50)
12/30        72.3( 0:20)
------------------------------------------------------------------------------------------
12/31        82.1(15:40)
```

CORPORATION

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   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                         BAROMETRIC PRESSURE

    SITE     023
DATE
----------------------------------------------------------------------------------------
12/ 1      800.0( 9:45)
12/ 2      801.0( 0:00)
12/ 3      795.0( 0:00)
12/ 4      791.0( 0:00)
12/ 5      789.0(20:15)
12/ 6      793.0(11:05)
12/ 7      793.0(10:05)
12/ 8      792.0( 0:00)
12/ 9      788.0(22:30)
12/10      795.0(20:20)
----------------------------------------------------------------------------------------
12/11      796.0( 3:00)
12/12      796.0( 7:35)
12/13      796.0( 0:00)
12/14      793.0( 5:40)
12/15      798.0(23:05)
12/16      798.0( 9:20)
12/17      793.0( 0:00)
12/18      790.0( 7:05)
12/19      796.0(22:05)
12/20      798.0( 7:40)
----------------------------------------------------------------------------------------
12/21      793.0( 0:00)
12/22      792.0(21:45)
12/23      791.0( 0:00)
12/24      788.0(22:30)
12/25      797.0(22:20)
12/26      798.0( 8:35)
12/27      790.0(21:30)
12/28      794.0(10:10)
12/29      791.0( 0:00)
12/30      781.0( 0:00)
----------------------------------------------------------------------------------------
12/31      781.0( 0:00)
```

CORPORATION

```
   TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC    1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              TOTAL PRECIPITATION

    SITE      023
DATE
-------------------------------------------------------------------------------------------
12/ 1
12/ 2
12/ 3
12/ 4
12/ 5
12/ 6
12/ 7
12/ 8
12/ 9
12/10
-------------------------------------------------------------------------------------------
12/11
12/12
12/13
12/14
12/15
12/16
12/17
12/18
12/19
12/20
-------------------------------------------------------------------------------------------
12/21
12/22
12/23
12/24
12/25
12/26
12/27
12/28
12/29
12/30
-------------------------------------------------------------------------------------------
12/31
```

CORPORATION

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED - WIND DIRECTION

SITE 023

DATE	(8-FT)		(30-FT)		(140-FT)		(200-FT)	
12/ 1	15.0	16.0(0:10)	22.0	15.0(0:10)	25.0	23.0(0:10)	26.0	22.0(0:10)
12/ 2	10.0	215.0(14:15)	13.0	189.0(14:40)	16.0	198.0(17:30)	21.0	203.0(17:30)
12/ 3	6.0	222.0(17:55)	7.0	213.0(17:30)	13.0	212.0(17:50)	15.0	215.0(17:50)
12/ 4	12.0	198.0(17:55)	16.0	201.0(17:55)	19.0	207.0(17:55)	23.0	208.0(17:55)
12/ 5	11.0	20.0(11:55)	14.0	333.0(13:25)	15.0	344.0(13:25)	16.0	344.0(13:20)
12/ 6	10.0	184.0(23:25)	13.0	188.0(23:25)	17.0	196.0(21:20)	22.0	201.0(21:20)
12/ 7	12.0	185.0(16:50)	15.0	183.0(16:50)	19.0	185.0(16:50)	22.0	194.0(16:50)
12/ 8	22.0	180.0(22:20)	26.0	180.0(21:45)	32.0	182.0(21:50)	38.0	187.0(21:50)
12/ 9	18.0	175.0(4:10)	23.0	178.0(4:10)	28.0	182.0(4:10)	34.0	187.0(4:15)
12/10	9.0	317.0(0:10)	15.0	336.0(1:05)	18.0	341.0(1:05)	21.0	342.0(1:05)
12/11	6.0	235.0(18:35)	8.0	231.0(18:35)	9.0	254.0(18:30)	9.0	261.0(18:30)
12/12	6.0	306.0(15:40)	7.0	293.0(15:35)	8.0	264.0(1:30)	9.0	254.0(1:30)
12/13	13.0	195.0(10:40)	15.0	192.0(10:50)	17.0	193.0(10:45)	18.0	198.0(10:40)
12/14	5.0	248.0(15:00)	9.0	200.0(0:05)	13.0	199.0(0:05)	16.0	209.0(0:05)
12/15	8.0	316.0(12:30)	11.0	320.0(12:35)	11.0	322.0(12:30)	12.0	324.0(12:50)
12/16	6.0	235.0(17:50)	8.0	210.0(0:05)	8.0	260.0(17:30)	40.0	69.0(9:50)
12/17	4.0	222.0(5:55)	7.0	215.0(5:55)	4.0	315.0(11:30)	6.0	114.0(22:45)
12/18	8.0	202.0(10:55)	10.0	206.0(11:05)	12.0	225.0(14:20)	14.0	200.0(1:45)
12/19	10.0	5.0(15:10)	14.0	23.0(14:40)	16.0	11.0(15:10)	16.0	12.0(15:10)
12/20	5.0	22.0(12:35)	7.0	163.0(20:55)	6.0	295.0(16:55)	6.0	3.0(14:05)
12/21	8.0	225.0(11:45)	10.0	222.0(11:45)	11.0	211.0(17:45)	15.0	222.0(17:50)
12/22	7.0	360.0(13:00)	9.0	352.0(13:00)	10.0	354.0(13:00)	10.0	20.0(13:20)
12/23	15.0	189.0(23:05)	19.0	198.0(20:50)	24.0	202.0(20:50)	29.0	208.0(20:50)
12/24	12.0	196.0(0:15)	16.0	194.0(0:20)	19.0	196.0(0:20)	22.0	202.0(0:15)
12/25	10.0	180.0(21:55)	14.0	170.0(22:00)	17.0	180.0(21:50)	22.0	186.0(21:55)
12/26	13.0	193.0(15:55)	17.0	214.0(15:25)	19.0	215.0(15:25)	21.0	202.0(15:55)
12/27	21.0	290.0(12:50)	27.0	288.0(12:50)	33.0	293.0(12:50)	32.0	290.0(12:50)
12/28	9.0	219.0(16:05)	10.0	205.0(15:55)	12.0	209.0(15:55)	15.0	206.0(17:15)
12/29	11.0	200.0(16:40)	15.0	200.0(16:55)	20.0	201.0(17:20)	24.0	206.0(17:10)
12/30	10.0	297.0(11:45)	13.0	321.0(14:00)	16.0	201.0(4:20)	20.0	209.0(4:20)
12/31	15.0	209.0(13:20)	19.0	214.0(15:40)	23.0	215.0(15:40)	23.0	218.0(13:40)

```
      TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
           TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
           PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                   RELATIVE HUMIDITY

  SITE 023
 DATE      (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
-----------------------------------------------------------------------------------------------
12/ 1      86.0( 0:00)           95.0( 0:00)           100.0( 0:00)          100.0( 0:00)
12/ 2      58.0( 4:00)           60.0( 4:10)            59.0( 1:30)           52.0( 3:55)
12/ 3      51.0( 0:00)           54.0( 0:00)            54.0( 0:00)           50.0(23:25)
12/ 4      59.0( 5:30)           62.0(23:55)            64.0(22:55)           62.0(22:40)
12/ 5      90.0( 8:10)           97.0( 8:25)           100.0( 7:35)          100.0( 7:40)
12/ 6      89.0( 6:25)           95.0( 6:15)           100.0( 6:10)           99.0( 6:45)
12/ 7      67.0( 7:20)           72.0( 7:00)            75.0( 7:40)           69.0( 7:05)
12/ 8      65.0( 7:30)                                  68.0( 0:20)           64.0( 0:25)
12/ 9      88.0(23:15)                                 100.0(23:15)          100.0(23:05)
12/10      90.0( 2:30)                                 100.0( 0:00)          100.0( 3:45)
-----------------------------------------------------------------------------------------------
12/11      77.0( 0:05)                                  76.0( 0:00)           70.0( 8:15)
12/12      71.0( 6:50)                                  72.0( 5:45)           66.0( 1:55)
12/13      56.0( 2:50)                                  58.0( 2:05)           52.0( 1:50)
12/14      56.0( 7:50)                                  57.0( 7:20)           52.0( 8:25)
12/15      57.0( 6:55)                                  59.0( 7:30)           53.0( 6:40)
12/16      49.0( 0:15)                                  52.0( 7:05)           47.0( 7:05)
12/17      47.0( 4:15)                                  49.0( 6:35)           43.0( 0:05)
12/18      42.0(23:30)                                  46.0(23:20)           41.0(23:25)
12/19      69.0(22:30)                                  71.0(23:40)           68.0(23:35)
12/20      79.0( 7:45)                                  81.0( 6:50)           75.0( 6:15)
-----------------------------------------------------------------------------------------------
12/21      51.0(22:05)           45.0(23:05)            51.0(23:20)           46.0(22:35)
12/22      52.0( 5:05)           45.0( 7:35)            51.0( 6:35)           47.0(21:30)
12/23      49.0( 0:00)           41.0( 0:00)            48.0( 0:00)           44.0( 0:00)
12/24      81.0(22:05)           74.0(19:35)            82.0(19:20)           80.0(19:20)
12/25      84.0( 1:00)           75.0( 0:45)            82.0( 1:20)           77.0( 2:05)
12/26      57.0( 7:00)           50.0( 6:45)            58.0( 7:05)           54.0( 6:45)
12/27      58.0(23:45)           48.0( 0:05)            59.0(23:40)           56.0(23:45)
12/28      67.0( 7:20)                                  65.0( 4:30)           61.0( 4:10)
12/29      52.0( 8:05)                                  50.0( 0:55)           45.0( 0:00)
12/30      60.0(23:35)                                  67.0(22:50)
-----------------------------------------------------------------------------------------------
12/31      74.0(23:50)                                  79.0(21:05)
```

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TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR DEC   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
       TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
       PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                 TEMPERATURE

  SITE 023
 DATE      (  8-FT)            ( 30-FT)            (100-FT)            (200-FT)
-----------------------------------------------------------------------------------
12/ 1      33.0(14:35)         30.0(14:15)         29.0(14:35)         26.0(14:50)
12/ 2      46.0(13:25)         43.0(12:45)         42.0(12:45)         40.0(13:15)
12/ 3      45.0(12:40)         42.0(13:15)         41.0(13:00)         39.0(13:30)
12/ 4      44.0(12:00)         40.0(12:10)         39.0(11:35)         37.0(12:10)
12/ 5      34.0( 0:20)         31.0( 0:20)         32.0( 0:10)         30.0( 0:25)
12/ 6      27.0(12:20)         24.0(15:30)         24.0(15:30)         21.0(15:30)
12/ 7      39.0(13:25)         34.0(12:50)         34.0(13:00)         31.0(12:50)
12/ 8      47.0(14:35)         43.0(13:40)         43.0(14:50)         41.0(14:20)
12/ 9      48.0(13:05)         44.0(13:00)         43.0(13:00)         42.0(13:15)
12/10      31.0(14:05)         27.0(15:05)         26.0(13:55)         23.0(14:00)
-----------------------------------------------------------------------------------
12/11      40.0(14:30)         37.0(14:15)         37.0(15:15)         34.0(14:45)
12/12      43.0(13:05)         41.0(14:50)         40.0(14:10)         38.0(14:40)
12/13      46.0(11:40)         40.0(10:25)         42.0(13:25)         40.0(13:30)
12/14      43.0(13:20)                             40.0(13:25)         38.0(13:55)
12/15      41.0(13:45)                             37.0(14:25)         34.0(14:15)
12/16      48.0(14:00)         46.0(14:00)         45.0(13:45)         43.0(14:00)
12/17      49.0(14:30)         46.0(15:15)         45.0(15:15)         43.0(15:15)
12/18      46.0(12:10)         42.0(12:10)         42.0(13:25)         39.0(12:40)
12/19      35.0(14:25)         30.0(15:00)         30.0(15:00)         27.0( 1:20)
12/20      35.0(14:50)         32.0(14:40)         32.0(14:50)         29.0(14:45)
-----------------------------------------------------------------------------------
12/21      40.0(13:00)         36.0(13:25)         35.0(14:25)         33.0(13:50)
12/22      37.0(12:50)         34.0(12:00)         32.0(12:00)         30.0(12:00)
12/23      38.0(12:45)         35.0(14:55)         33.0(13:35)         31.0(12:45)
12/24      32.0( 4:50)         28.0( 0:00)         27.0( 0:00)         26.0( 0:00)
12/25      33.0(13:50)         30.0(13:40)         28.0(13:35)         27.0(14:00)
12/26      44.0(15:05)         41.0(13:20)         39.0(13:10)         38.0(13:30)
12/27      42.0(12:25)         38.0(11:00)         36.0(11:00)         36.0(12:00)
12/28      38.0(13:30)         36.0(13:35)         34.0(13:35)         32.0(13:20)
12/29      43.0(14:30)         39.0(14:00)         39.0(14:25)         36.0(14:05)
12/30      33.0( 9:50)         31.0(11:10)         30.0(11:10)         28.0(11:10)
-----------------------------------------------------------------------------------
12/31      33.0(13:25)         29.0(13:20)         27.0(13:05)         26.0(13:20)
```

TABLE VI

THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DECEMBER 1 THRU 31

```
            TABLE VI, THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
                     (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                 UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                     WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                              NITROGEN OXIDES[WS: WD]
                                 1-HOUR
SITE              023

 1,12/29( 6:00- 7:00) 202,2[ 3:129]
 2,12/29( 8:00- 9:00) 195,0[ 4: 91]
 3,12/ 1(10:20-11:20)  84,6[ 2:116]
 4,12/28(12:45-13:45)  60,8[ 4:208]
 5,12/ 3( 6:05- 7:05)  27,1[ 3:107]
------------------------------------------------------------------------------------------------

                              NITRIC OXIDE[WS: WD]
                                 1-HOUR
SITE              023

 1,12/29( 6:00- 7:00) 202,2[ 3:129]
 2,12/29( 8:00- 9:00) 195,0[ 4: 91]
 3,12/ 2( 8:55- 9:55)  10,6[ 3: 86]
 4,12/ 1( 4:00- 5:00)   9,4[ 7:287]
 5,12/28(12:45-13:45)   7,0[ 4:208]
------------------------------------------------------------------------------------------------

                              NITROGEN DIOXIDE[WS: WD]
                                 1-HOUR
SITE              023

 1.12/ 1(10:20-11:20)  84,6[ 2:116]
 2,12/28(12:45-13:45)  53,8[ 4:208]
 3,12/ 3( 6:05- 7:05)  27,1[ 3:107]
 4,12/ 3( 7:10- 8:10)  24,3[ 3:117]
 5,12/ 3( 8:15- 9:15)  21,8[ 2: 75]
------------------------------------------------------------------------------------------------
```

```
          TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
                    (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                       WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                        SULFUR DIOXIDE[WS: WD]
                                           1-HOUR
SITE              023

 1.12/ 9(10:40-11:40)   7.8[15:205]
 2.12/22(10:50-11:50)   4.1[ 3:121]
 3.12/ 2(23:50- 0:50)   3.3[ 4:103]
 4.12/ 7( 9:35-10:35)   3.0[ 3:184]
 5.12/ 3( 1:50- 2:50)   2.8[ 4:131]
-------------------------------------------------------------------------------------------

                                        SULFUR DIOXIDE[WS: WD]
                                          24-HOUR
SITE              023

 1.12/ 2-12/ 3(12:00)   1.4[ 5:132]
 2.12/ 9-12/10( 9:00)    .4[ 8:266]
 3.12/21-12/22(14:00)    .3[ 3:185]
 4.12/10-12/11(12:00)    .2[ 2:230]
 5.12/ 4-12/ 5(22:00)    .1[ 4:272]
-------------------------------------------------------------------------------------------

                                       HYDROGEN SULFIDE[WS: WD]
                                           1-HOUR
SITE              023

 1.12/30( 2:45- 3:45)  11.2[ 4:119]
 2.12/29(22:35-23:35)  11.1[ 3:127]
 3.12/29(23:45- 0:45)  11.1[ 3:128]
 4.12/30( 6:55- 7:55)  11.0[ 4:182]
 5.12/30( 3:50- 4:50)  10.7[ 9:194]
-------------------------------------------------------------------------------------------
```

```
          TABLE VI. THE FIVE MAXIMUM AVERAGES FOR DEC   1-31
                    (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
         UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                              TOTAL HYDROCARBONS(WS: WD)
                                  3-HOUR(6-9AM)
SITE              023

 1.12/21( 6:00- 9:00)1186.9( 4:112)
 2.12/24( 6:00- 9:00)1091.5( 4:261)
 3.12/31( 6:00- 9:00)1073.0( 4:188)
 4.12/30( 6:00- 9:00)1044.4( 4:168)
 5.12/23( 6:00- 9:00)1036.3( 3:101)
   PRIMARY STANDARD EXCEEDED  14 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  14 TIMES AT SITE 023
-------------------------------------------------------------------------------------------
```

```
                    TABLE VI, THE FIVE MAXIMUM AVERAGES FOR DEC    1-31
                              (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                   UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                          WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                        METHANE(WS: WD)
                                          3-HOUR(6-9AM)
SITE            023

 1,12/10( 6:00- 9:00)1159,2( 3:259)
 2,12/ 9( 6:00- 9:00)1145,0( 5:117)
 3,12/11( 6:00- 9:00)1144,0( 1:181)
 4,12/12( 6:00- 9:00)1143,0( 2:210)
 5,12/13( 6:00- 9:00)1141,0( 4:147)
   PRIMARY STANDARD EXCEEDED  22 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  22 TIMES AT SITE 023
------------------------------------------------------------------------------------------------------
```

```
                        TABLE VI. THE FIVE MAXIMUM AVERAGES FOR DEC   1-31
                                  (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                       UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                              WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                      NON-METHANE HYDROCARBONS(WS: WD)
                                              3-HOUR(6-9AM)
SITE                023

 1.12/21( 6:00- 9:00) 272.9( 4:112)
 2.12/31( 6:00- 9:00) 154.8( 4:188)
 3.12/24( 6:00- 9:00) 144.9( 4:261)
 4.12/30( 6:00- 9:00) 141.0( 4:168)
 5.12/23( 6:00- 9:00) 123.9( 3:101)
   PRIMARY STANDARD EXCEEDED   9 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED   9 TIMES AT SITE 023
------------------------------------------------------------------------------------------------------------------
```

```
        TABLE VI, THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC   1-31
                    (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
               UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                    WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                               CARBON MONOXIDE[WS: WD]
                                  1-HOUR

SITE           023

 1,12/ 8( 5:40- 6:40)1215,4[ 1: 65]
 2,12/ 8(13:00-14:00)1190,4[14:188]
 3,12/25( 8:10- 9:10)1180,6[ 2:111]
 4,12/ 8(15:20-16:20)1108,8[12:201]
 5,12/ 7( 2:40- 3:40)1092,8[ 6:172]
------------------------------------------------------------------------------------------
```

```
          TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
                        (WITH ASSOCIATED WIND SPFED AND WIND DIRECTION)
                   UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                         WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                     CARBON MONOXIDE[WS: WD]
                                           8-HOUR
SITE                023

 1.12/ 6(21:55- 5:55)1005.4[ 7:152]
 2.12/ 8( 5:55-13:55) 967.8[ 8:155]
 3.12/ 7( 7:55-15:55) 967.6( 6:190]
 4.12/ 4(10:55-18:55) 892.4[ 7:203]
 5.12/ 2(20:55- 4:55) 842.8[ 3:117]
------------------------------------------------------------------------------------------------------
```

```
     TABLE VI, THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
                    (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                       WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                   OZONE(WS: WD)
                                     1-HOUR
SITE              023

 1.12/ 1( 0:15- 1:15)  97,0[10:358]
 2,12/ 1( 1:45- 2:45)  94,3[ 4:275]
 3,12/ 1(14:15-15:15)  93,9( 2: 17]
 4,12/ 1( 3:25- 4:25)  91,3[ 7:285]
 5,12/ 1(10:20-11:20)  90,4[ 2:116]
-----------------------------------------------------------------------------------------------
```

```
                    TABLE VI, THE FIVE MAXIMUM AVERAGES FOR DEC   1-31
                   UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER

                                PARTICULATE
                                  24-HOUR

SITE              023

       1   12/14    17.0
       2   12/27    15.0
       3   12/22    14.0
       4   12/15    11.0
       5   12/17    10.0
--------------------------------------------------------------------------------
```

TABLE VII
FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION

CORPORATION

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN OXIDES(NOX) C-B SHALE OIL PROJECT
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
GT 160				4	3	6	2	5		1								21
140 - 160			1	0	1	0	0	1		0								3
120 - 140			0	0	0	0	0	1		1								2
110 - 120			0	0	0	3	2	1		0								6
100 - 110			1	0	2	0	0	0		0								3
90 - 100			0	0	0	0	0	0		0								0
80 - 90			0	0	0	0	0	0		0								0
70 - 80			0	0	0	0	0	0		0								0
60 - 70			0	0	0	0	0	0		0								0
50 - 60			0	0	0	0	0	0	1	0								1
40 - 50			0	0	0	1	0	0	0	0								1
30 - 40			0	1	2	0	0	0	1	0				1				5
20 - 30			4	11	20	7	10	0	2	5	1	1		1				62
10 - 20	3	1	10	10	25	15	11	15	22	35	20	5	4	10	8	1	11	206
LT 10	230	158	143	239	390	449	467	500	933	1302	716	260	261	393	286	198	323	7248
TOTAL	233	159	159	265	443	481	492	523	959	1344	737	266	265	405	294	199	334	7558
	0.	0.	4.	6.	6.	6.	4.	4.	1.	2.	2.	2.	2.	2.	2.	1.	2.	3.

```
                 NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

       NITRIC OXIDE(NO)                                             C-B SHALE OIL PROJECT
                                TRAILER NO. -  23  PERIOD(12/ 1/76 TO 12/31/76)

                                                          WIND DIRECTION
                N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
CONCENTRATION
  UG/M**3
  GT   160 I                  4    3    6    2    5                                                I   20

140 -  160 I             1    0    1    0    0    1                                                I    3

120 -  140 I             0    0    0    0    0    0         1                                      I    1

110 -  120 I             0    0    0    1    0    0         0                                      I    1

100 -  110 I             1    0    0    0    0    0         0                                      I    1

 90 -  100 I             0    0    0    0    0    0         0                                      I    0

 80 -   90 I             0    0    0    0    0    0         0                                      I    0

 70 -   80 I             0    0    0    0    0    0         0                                      I    0

 60 -   70 I             0    0    0    0    0    0         0                                      I    0

 50 -   60 I             0    0    0    0    0    0         0                                      I    0

 40 -   50 I             0    0    0    0    0    0         0                                      I    0

 30 -   40 I             0    0    0    0    0    0         1                   1                  I    2

 20 -   30 I             0    1    0    1    0    0    1    2         1         1                  I    7

 10 -   20 I    1    1   2    2    3    1    0    0    1    5    1    0    2    5    1    1         I   26

   LT   10 I  232  158  155  258  436  472  492  517  957 1335  736  265  263  398  293  198  334 I 7497

  TOTAL    I  233  159  159  265  443  481  492  523  959 1344  737  266  265  405  294  199  334 I 7558
           ********************************************************************************************
   PEAK        0.   0.   2.   4.   3.   3.   1.   2.   0.   0.   0.   0.   0.   0.   0.   0.   0.   1.
```

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN DIOXIDE(NO2) C-B SHALE OIL PROJECT
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
GT 160										1								1
140 - 160										0								0
120 - 140								1		0								1
110 - 120						2	2	1		0								5
100 - 110					2	0	0	0		0								2
90 - 100					0	0	0	0		0								0
80 - 90					0	0	0	0		0								0
70 - 80					0	0	0	0		0								0
60 - 70					0	0	0	0		0								0
50 - 60					0	0	0	0		0								0
40 - 50					0	1	0	0		0								1
30 - 40				1	2	0	0	0	1	0								4
20 - 30			4	9	19	6	10	0	3	3	1							55
10 - 20	2		7	9	21	12	11	15	21	30	19	5	2	5	7		10	176
LT 10	231	159	148	246	399	460	469	508	934	1310	717	261	263	400	287	199	324	7313
TOTAL	233	159	159	265	443	481	492	523	959	1344	737	266	265	405	294	199	334	7558
MEAN	0.	0.	2.	3.	4.	3.	3.	2.	1.	2.	2.	1.	0.	0.	1.	0.	2.	2.

```
                     NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

          SULFUR DIOXIDE(SO2)                                                   C-B SHALE OIL PROJECT
                                     TRAILER NO. =   23   PERIOD(12/ 1/76 TO 12/31/76)

                                                              WIND DIRECTION
                        N   NNE    NE   ENE     E   ESE    SE   SSE     S  SSW    SW   WSW     W   WNW    NW   NNW  CALM   TOTAL
 CONCENTRATION
   UG/M**3
   GT     140 :                                                                                                       :
130 -     140 :                                                                                                       :
120 -     130 :                                                                                                       :
110 -     120 :                                                                                                       :
100 -     110 :                                                                                                       :
 90 -     100 :                                                     1                                                 :      1
 80 -      90 :                                                     0                                                 :      0
 70 -      80 :                                                     0                                                 :      0
 60 -      70 :                                                     0                                                 :      0
 50 -      60 :                                                     0                                                 :      0
 40 -      50 :                                                     0                                                 :      0
 30 -      40 :                                               1     0                                                 :      1
 20 -      30 :           1                                   0     0                                   1             :      2
 10 -      20 :           0                                   0     0                                   0             :      0
   LT      10 :   251   172   172   299   488   546   544   583   999 1468   822   310   299   472   333   223   412 :   8393
     TOTAL    :   251   173   172   299   488   546   544   584  1000 1468   822   310   299   472   334   223   412 :   8397
              ...............................................................................................................
     [illegible]        0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.     0.
```

```
                    NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

       HYDROGEN SULFIDE(H2S)                                        C-B SHALE OIL PROJECT
                           TRAILER NO. -  23  PERIOD(12/ 1/76 TO 12/31/76)

                                                         WIND DIRECTION
                  N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM   TOTAL
 CONCENTRATION
   UG/M**3
    GT   140 !                                                                                    !
 130 -   140 !                                                                                    !
 120 -   130 !                                                                                    !
 110 -   120 !                                                                                    !
 100 -   110 !                                                                                    !
  90 -   100 !                                                                                    !
  80 -    90 !                                                                                    !
  70 -    80 !                                                                                    !
  60 -    70 !                                                                                    !
  50 -    60 !                                                                                    !
  40 -    50 !                                                                                    !
  30 -    40 !                                                                                    !
  20 -    30 !         1                                                                          !      1
  10 -    20 !         0         1    8   19   22    7   25   10                   1              !     93
    LT    10 !  241  171  166  298  460  500  500  566  964 1451  817  309  297  470  330  225  410 !   8175
     TOTAL   !  241  172  166  299  468  519  522  573  989 1461  817  309  297  470  331  225  410 !   8269
             ******************************************************************************************
      MEAN       0.   0.   0.   0.   0.   1.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.      0.
```

CORPORATION

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

TOTAL HYDROCARBONS C-B SHALE OIL PROJECT
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
GT 4000																		
3600 - 4000																		
3400 - 3600																		
3200 - 3400	1		1	2			1							1	2			8
3000 - 3200	0		0	0	1	2	0			5				0	0			8
2800 - 3000	1		0	0	2	0	1		2	1				0	0			7
2600 - 2800	0		1	1	0	0	0		0	0				0	0	1		3
2400 - 2600	0	1	1	0	0	2	0		0	1				0	0	1		6
2200 - 2400	0	0	0	0	2	2	1		0	6				0	0	0		11
2000 - 2200	0	0	0	0	1	0	0		0	4				0	0	0		5
1800 - 2000	0	0	0	0	2	1	0	1	3	5				1	1	1		15
1600 - 1800	2	1	0	1	3	6	0	1	0	3			3	2	1	1	1	25
LT 1600	177	124	117	179	302	335	358	388	578	952	482	178	156	252	173	127	270	5148
TOTAL	181	126	120	183	313	348	361	390	583	977	482	178	159	256	177	131	271	5236
MEAN/100	11.	10.	11.	11.	11.	11.	10.	10.	11.	11.	10.	10.	10.	10.	11.	11.	10.	11.

CORPORATION

```
                    NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

         METHANE(CH4)                                                 C-B SHALE OIL PROJECT
                               TRAILER NO. =  23  PERIOD(12/ 1/76 TO 12/31/76)

                                                         WIND DIRECTION
                    N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
 CONCENTRATION
   UG/M**3
   GT  2400 :                                                                            1    :     1

 2200 -  2400 :                                            1                              0    :     1

 2000 -  2200 :                                            1                              0    :     1

 1800 -  2000 :                                            0                         1    0    :     1

 1600 -  1800 :                               1            0                         0    0    1 :     2

 1400 -  1600 :    2                          1         1  0                         2    0    1 :     7

 1200 -  1400 :    3         14   11   24   13   10   37  102   46   14    1    2    7    3    4    1 :   292

 1000 -  1200 :   32   25   17   37   42   69   94   96  221  203  211   76   87  125  108   53   73 :  1569

  800 -  1000 :  189  131  118  204  346  392  363  366  531  999  491  188  188  271  176  124  275 :  5352

  600 -   800 :    0    4    5    2    4    1    9    7    2    5   18   15    4    2    2    8   14 :   102

  400 -   600 :    0    0    0    0    1    0    0    0    0    1    0    0    0    0    0    0    0 :     2

  200 -   400 :    0    0    0    0    0    0    0    0    1    0    0    0    0    0    0    0    0 :     1

   LT   200 :    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0 :     0

    TOTAL    :  226  160  154  254  417  477  476  507  859 1254  734  280  281  405  292  190  365 :  7331
             ...........................................................................................

  MEAN/100       10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.  10.   10.
```

CORPORATION

```
                        NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

          NON-METHANE HYDROCARBONS                                          C-B SHALE OIL PROJECT
                                TRAILER NO. =  23  PERIOD(12/ 1/76 TO 12/31/76)

                                                                WIND DIRECTION
                    N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CAL.1  TOTAL
 CONCENTRATION
   UG/M**3
   GT   3000 :                                                                                   :
 2800 -  3000 :                                                                                  :
 2600 -  2800 :                                                                                  :
 2400 -  2600 :                                                                                  :
 2200 -  2400 :     1                                                                   2         :     3
 2000 -  2200 :     1              2    1                                               0         :     4
 1800 -  2000 :     0         1    0    1    2    1              6                 1    0         :    12
 1600 -  1800 :     0         0    1    1    1    1         3    0                 0    0         :     7
 1400 -  1600 :     0         2    0    1    3    0         0    3                 0    0         :     9
 1200 -  1400 :     0    1    0    0    1    0    1         0    3                 0    0    1    :     7
 1000 -  1200 :     0    0    0    0    1    1    0    1    1    5                 0    0    0    :     9
  800 -  1000 :     0    1    0    0    4    1    0    0    1    6            2    1    2    1    :    19
  600 -   800 :     1    1    0    1    2    4    0    1    0    1    1       1    1    0    2    :    16
     LT   600 :   178  123  117  179  301  336  358  388  578  953  481  178  156  253  173  127  271 :  5150
    TOTAL     :   181  126  120  183  313  348  361  390  583  977  482  178  159  256  177  131  271 :  5236
              ......................................................................................................
     MEAN        129. 101. 140. 146. 155. 146.  97.  94. 114. 135.  90.  85. 101.  97. 130. 132.  82. 117.
```

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

CARBON MONOXIDE(CO) C-8 SHALE OIL PROJECT
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

CONCENTRATION UG/M**3	WIND DIRECTION N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
GT 4250					1	1	1		2	1	2	1		2		1		12
3750 - 4000					2	0	0		0	1	0	0		0		1		4
3500 - 3750				1	0	0	0		0	1	0	0		0		0		2
3250 - 3500				0	0	0	0		1	1	1	0		0		0		3
3000 - 3250				0	0	0	1		0	1	0	0		0		0		2
2750 - 3000				0	0	0	1	2	1	2	0	0		1		0		7
2500 - 2750				0	0	2	0	0	1	0	0	0		0		1		4
2250 - 2500				0	0	1	0	0	0	0	2	0		0		0	1	4
2000 - 2250				0	0	1	0	1	1	1	1	0		0	1	0	1	7
1750 - 2000			1	0	0	1	0	0	2	0	0	0		1	0	0	0	5
1500 - 1750			1	0	0	0	1	0	0	1	0	1	1	0	0	0	0	5
1250 - 1500			1	0	1	0	0	1	0	1	0	1	0	0	0	0	2	7
LT 1250	250	174	168	282	449	499	496	551	977	1372	780	291	294	423	310	215	398	7929
TOTAL	250	174	171	283	453	505	500	555	985	1382	786	294	295	427	311	218	402	7991
MEAN	349.	363.	481.	511.	515.	450.	415.	437.	530.	424.	432.	397.	406.	409.	369.	426.	340.	433.

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

           OZONE(O3)                                                             C-B SHALE OIL PROJECT
                                   TRAILER NO. =  23  PERIOD(12/ 1/76 TO 12/31/76)

                                                                    WIND DIRECTION
                   N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  CALM  TOTAL
CONCENTRATION
  UG/M**3
  GT    240 :                                                                                                    :

220 -   240 :                                                                                                    :

200 -   220 :                                                                                                    :

180 -   200 :                                                                                                    :

160 -   180 :                                                                                                    :

140 -   160 :                                                                                                    :

120 -   140 :                                                                                                    :

100 -   120 :                                                                                                    :

 80 -   100 :    30    16    17    16    37    43    48    34    56    84    21     6    18    26    12    13    14 :   491

 60 -    80 :   191   131   114   213   326   391   397   469   778  1224   624   231   171   296   249   176   335 :  6316

 40 -    60 :    29    31    38    60   102   105    89    49    94   138   179    76   113   149    72    32    68 :  1424

 20 -    40 :     0     0     0     0     0     0     0     0     1     1     0     0     0     0     0     0     0 :     2

   LT    20 :     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     0     1 :     2

  TOTAL     :   250   178   169   289   465   539   534   552   929  1447   824   313   302   471   334   221   418 :  8235
            ....................................................................................................................

   MEAN         69.   68.   66.   65.   66.   67.   68.   68.   67.   68.   65.   65.   63.   64.   65.   67.   65.   67.
```

TABLE VIII

DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

CORPORATION

```
                 DIURNAL VARIATION OF NITROGEN OXIDES(UG/M**3)
                  TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                      HOUR
       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24  MEAN
DAY

 1                    *!   *    *                       35     !   *!   *    *         *     !    !    !    !    !   *    9     8.
 2    16   12    *    *    *    *    *    *!  23!  15   17     !    !    !    !    !  26!   *    *    *    *    *    *    *     7.
 3     *    *    *    *    *    9   26   25   22   18   19     !   *    *    *    *    *    *    *    *    *    *    *    *     6.
 4     *    *    *    *    *    *    *    *    *    *    *!   *    *    *    *    *    *    *    *    *    *    *    *    *     2.
 5     *    *    *    *    *    *    *    *    *    *!   *!   *    *    *    *    *    *    *    *    *    *    *    *    *     2.
 6     *    *    *    *    *    *    *    *    *    *!   *!   *    *    *    *    *    *    *    *    *    *    *    *    *     1.
 7     *    *    *    *    *    *    *    *    *    *!   *    *    *    *    *    *    *    *    *    *    *    *    *    *     1.
 8     *    *    *    *    *    *    *    *    *    *!   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
 9     *    *    *    *    *    *    *    *    *    *    *!   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
10     *    *    *    *    *    *    *    *    *    *    *!   *!   *    *    *    *    *    *    *    *    *    *    *    *     2.
11     *    *    *    *    *    *    *    *    *    *    *     !    !    !   9!   *    *    *    *    *    *    *    *    *     6.
12     *    *    *    *    *    *    *    *    *    *    *    *    *    9    *    *    *    *    *    *    *    *    *    *     8.
13     *    *    *    *    *    *    *    9    *    *    *    *    9    9   10    *!   *    *    *    *    *    *    *    *     5.
14     *    *    *    *    *    *    *    *    *    *!    !   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
15     *    *    *    *    *    *    *    *    *     !   *    *    *    *    *    *    *    *    *    *    *    *    *    *      .
16     *    *    *    *    *    *    *    *    *    *    *!   *    *    *    *!                                                  .
17
18                                                   !   *!   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
19     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
20     *    *    *    *    *    *    *    *    *!   *!   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
21     *    *    *    *    *    *    *    *    *    *    *!   *!             *    *    *    *    *    *    *    *    *    *     1.
22     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      .
23     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
24     *    *    *    *    *    *    *    *    *    *!   *!   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
25     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     2.
26     *    *    *    *    *    *    *    *    *    *    *!   *!   *    *    *    *    *    *    *    *    *    *    *    *     2.
27     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *!    !   *!   *    *    *    *    *    *    *     0.
28     *    *    *    *    *    *    *    *    *!    !   *    *    *   72     !                                                 5.
29                                 200       183         *    *    *    *!    !   *!   *    *    *    *    *    *    *    *    26.
30     *    *    *    *    *    *    *    *    *    *!   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
31     *    *    *    *    *    *   11   12    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     5.
MEAN  2.   2.   1.   2.   2.   2.  10.   3.   9.   3.   4.   2.   1.   4.   1.   1.   2.   1.   1.   1.   1.   1.   2.   2.

                        TOTAL NUMBER OF OBSERVATIONS =  7662    MEAN  =        3.

        * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

        ! INDICATES CALIBRATION DURING THE HOUR
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```
                          DIURNAL VARIATION OF NITRIC OXIDE(UG/M**3)
                        TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                         HOUR
       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24   MEAN
DAY

   1                  *:   *    *                        *     :   *:   *    *         *     :    :    :    :    :   *    *     2.
   2   *    *    *    *    *    *    *    *:   *:  10   15     :    :    :    :    :  25:   *    *    *    *    *    *    *     3.
   3   *    *    *    *    *    *    *    *    *    *    *     :   *    *    *    *    *    *    *    *    *    *    *    *     0.
   4   *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *     2.
   5   *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *     2.
   6   *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *     1.
   7   *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *     1.
   8   *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
   9   *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  10   *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *     0.
  11   *    *    *    *    *    *    *    *    *    *    *     :    :    :   *:   *    *    *    *    *    *    *    *    *     0.
  12   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  13   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *     0.
  14   *    *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  15   *    *    *    *    *    *    *    *    *     :   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  16   *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *:                                              0.
  17
  18                                                  :   *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  19   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  20   *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  21   *    *    *    *    *    *    *    *    *    *    *:   *:             *    *    *    *    *    *    *    *    *    *     0.
  22   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  23   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  24   *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  25   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  26   *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *     0.
  27   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *:    :   *:   *    *    *    *    *    *    *     0.
  28   *    *    *    *    *    *    *    *    *:    :   *    *    *    *     :                                              1.
  29                               200       183        *    *    *    *:    :   *:   *    *    *    *    *    *    *    *    26.
  30   *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *      .
  31   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
MEAN  0.   0.   0.   0.   1.   0.   8.   0.   7.   1.   1.    .   0.   1.   0.   0.   1.   0.   0.   0.    .   0.   0.   0.

                TOTAL NUMBER OF OBSERVATIONS =  7662    MEAN  =       1.

            * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

            : INDICATES CALIBRATION DURING THE HOUR
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                       DIURNAL VARIATION OF NITROGEN DIOXIDE(UG/M**3)
                         TRAILER NO. - 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                     HOUR
       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24   MEAN
DAY

   1                  *I   *    *                       35     I   *I   *    *         *     I    I    I    I    :   *    9     6.
   2  16   12    *    *    *    *    *    *:  17I   *    *     I    I    I    I    I   *I   *    *    *    *    *    *    *     5.
   3   *    *    *    *    *    9   26   25   22   18   19     I   *    *    *    *    *    *    *    *    *    *    *    *     6.
   4   *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
   5   *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *      .
   6   *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
   7   *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
   8   *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
   9   *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  10   *    *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *     1.
  11   *    *    *    *    *    *    *    *    *    *    *     I    I    I   9I   *    *    *    *    *    *    *    *    *     6.
  12   *    *    *    *    *    *    *    *    *    *    *    *    *    9    *    *    *    *    *    *    *    *    *    *     8.
  13   *    *    *    *    *    *    *    9    *    *    *    *    9    9   10   *I   *    *    *    *    *    *    *    *     5.
  14   *    *    *    *    *    *    *    *    *    *I    I   *    *    *    *    *    *    *    *    *    *    *    *    *      .
  15   *    *    *    *    *    *    *    *    *     I   *    *    *    *    *    *    *    *    *    *    *    *    *    *      .
  16   *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *I                                                .
  17                                                                                                                          .
  18                                                  I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  19   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  20   *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  21   *    *    *    *    *    *    *    *    *    *    *I   *I             *    *    *    *    *    *    *    *    *    *     0.
  22   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      .
  23   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  24   *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  25   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     2.
  26   *    *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *     2.
  27   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *I    I   *I   *    *    *    *    *    *    *     0.
  28   *    *    *    *    *    *    *    *    *I    I   *    *    *   64     :                                               4.
  29                               *         *         *    *    *    *I    I   *I   *    *    *    *    *    *    *    *     0.
  30   *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     0.
  31   *    *    *    *    *    *   11   12    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     5.
MEAN   2.   2.   1.   2.   2.   2.   2.   3.   2.   2.   4.   1.   1.   3.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.

                        TOTAL NUMBER OF OBSERVATIONS =   7662     MEAN  =        2.

                * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

                I INDICATES CALIBRATION DURING THE HOUR
```

DIURNAL VARIATION OF SULFUR DIOXIDE(UG/M**3)
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	*	*	*	*:	*	*	*	*	*	*	*	:	*:	*	*	:	:	:	:	:	:	:	*	*	0.
2	*	*	*	*	*	*	*	*:	*:	*	*	*:	*	*:	*	*	:	*:	*	*	*	*	*	*	.
3	*	*	*	*	*	*	*	*	*	*	*	:	*	*	*	*	*	*	*	*	*	*	*	*	1.
4	*	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
5	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	.
6	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
7	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
8	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	.
9	*	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
10	*	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	0.
11	*	*	*	*	*	*	*	*	*	*	*	:	*:	*:	*:	*	*	*	*	*	*	*	*	*	0.
12	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	0.
14	*	*	*	*	*	*	*	*	*	*:	:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
15	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
16	*	*	*	*	*	*	*	*	*	*	*:	*	*	*	*:	*	*	*	*	*	*	*	*	*	0.
17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
18	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
20	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	.
21	*	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	.
22	*	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
24	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
25	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
26	*	*	*	*	*	*	*	*	*	*	*:	*:	*	*	*	*	*	*	*	*	*	*	*	*	0.
27	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
28	*	*	*	*	*	*	*	*	*:	:				*			*	*	*	*	*	*	*	*	0.
29	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
30	*	*	*	*	*	*	*	*	*	*:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
31	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0.
MEAN	0.	.	.	.	0.	.	.	.	.	0.	1.	0.	.	.	.	.	.	0.	.	.	.	.	.	.	

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = .

* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

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                    DIURNAL VARIATION OF HYDROGEN SULFIDE(UG/M**3)
                      TRAILER NO. - 23  PERIOD(12/ 1/76 TO 12/31/76)

                                          HOUR
         1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

  1      *    *    *    *I   *    *    *    *    *    *    *     I    I    I    I    I    I    I    I    I    I   *I    I    I     .
  2       I    I    I    I    I    I    I    I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    1.
  3      *    *    *    *    *    *    *    *    *    *    *     I   *    *    *    *    *    *    *    *    *    *    *    *    0.
  4      *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    0.
  5      *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *    0.
  6      *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *     .
  7      *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *    0.
  8      *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     .
  9      *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *     .
 10      *    *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    0.
 11      *    *    *    *    *    *    *    *    *    *    *     I   *I   *I   *I   *    *    *    *    *    *    *    *    *    0.
 12      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 13      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    0.
 14      *    *    *    *    *    *    *    *    *    *I    I   *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 15      *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     .
 16      *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *I   *    *    *    *    *    *    *    *    *     .
 17      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 18      *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 19      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 20      *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *     .
 21      *    *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *     .
 22      *    *    *    *    *    *    *    *    *    *    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 23      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 24      *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *    *     .
 25      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     .
 26      *    *    *    *    *    *    *    *    *    *    *I   *I   *    *    *    *    *    *    *    *    *    *    *    *     .
 27      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0.
 28      *    *    *    *    *    *    *    *    *I    I                  *              *    *    *    *    *    *    *    *    0.
 29      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    7    9   10   10   10   10    4.
 30     10   10   10   11   10    9   10   10   10    *I   *    *    *    *    *    *    *    *    *    *    *    *    *    *    5.
 31      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    2.
 MEAN   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.    .   0.   0.   0.   0.   0.   0.   1.   1.   1.   1.

                         TOTAL NUMBER OF OBSERVATIONS =  8417     MEAN  =        0.

               * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

               I INDICATES CALIBRATION DURING THE HOUR
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                     DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M**3 X 10**-1)
                          TRAILER NO. - 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                  HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1                    !115 108 104 106 111 121 117    !114!108 107 113 111       !   !   !  !106  98  99  110.
  2      101 101 100                       !  !102 105      !   !   !   !   !  274 266                     151.
  3                                                         !
  4                                                     !
  5                                                 !  !111 105 107 107 104 104                            107.
  6                                                 !  !158         221 147 144 144 144 145 144 144 145 144 152.
  7      139 140 142 143 142 142 142 145 140 139!141 141 135 141                                           142.
  8
  9
 10
 11                                            115          !   !   !   !                                  115.
 12
 13                     113 114 114 114                             !   !   !                              114.
 14                                             !   ! 89  91  90  88  88  89  89  89  89  89  88  88  89    89.
 15       89  90  90  90  92  89  88  89  90    !104 108 105 107 106 105 103 101             108      99    98.
 16       99  99      91  94  91  91  95 103 103    !105 110     152!124 105 102 100 104 105 103 100 103   104.
 17      104 106 104 103 103 102          99 100  99 101  97  95  93  93  93  93  97  92  95  97  92  95    98.
 18       89  87  89  88  88  87  88  88  97  98!102! 95  91  91  90  93  94  94  91  91  91  91  91  91    92.
 19       91  91  92  91  91  91  92  92  96 115 100  97  97  95  94  92  92  94 101  93  93  93  92  92    95.
 20       92  93  93  93  93  93  93  92  92! 99! 91  91  93  94  92  93 116  96  91  91  90  99  90  90    94.
 21       90  93 102 109 117 115  95 109 151 208 163 122 101 100 101 102 101 102 102 102 102 102 102 102   112.
 22      103 103 103 102 101 101 101 101 104 102 102 138 186 163 135 103 104 104 105 107 105 104 104 112   112.
 23      103 103 107 104 103 103 103 103 103 103 103 102 100 101 100 100 100 101 102 103 104 106 111 104   104.
 24      104 104 103 103 103 112 106 111 109 109 105 110 103 104 106 102 102 102 101 101 101 102 103 105   105.
 25      106 107 106 103 103  98 103 101 110 104 104 105 104 105 105 104 104 104 104 104 104 104 103 104   105.
 26      112 103 104 103 103 102 103 102 103 102 102!102! 99  99 100 100 100  99  99  99  99 100 100 100   102.
 27          100      96                     100 100 101 101 102 103 103 101 102 103 104 108 102 103 103   102.
 28      102 102 101 102 102 102 102 102 101 104 106 105 103 102         103 101 102 102 102 101 102 102   103.
 29      101 101 101 101 101 101 101 101 102 102 102 108 107 105 105 105 105 103 103 103 104 103 104 104   104.
 30      104 105 104 104 104 104 104 104 104       !   !   !   !   !   !  !106 105 106 105 105 106 107 108   105.
 31      106 106 110 106 107 109 106 105 109 106 106 106 106 106 107 106 106 110 105 105 106 106 106 106   107.
 MEAN    102.102.103.102.104.104.102.104.107.112.110.109.107.106.110.104.104.111.112.103.103.104.102.103.

                         TOTAL NUMBER OF OBSERVATIONS =  5205     MEAN  =     105.

               ! INDICATES CALIBRATION DURING THE HOUR
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                    DIURNAL VARIATION OF METHANE(UG/M**3 X 10**-1)
                    TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  MEAN
DAY

  1                     : 96  97  97  97  97  98  98    : 98:100  99  98  99    :   :   :   : 94  94  95   98.
  2     94  94  94                      :   : 96  93    :   :   :   :   :118 114 109 108 102  98  97  96  102.
  3     98  95  95  95  95  94  94  94  94  94  95    : 96  95  95  95  95  95  94  94  94  94  94  94   95.
  4     94  94  94  94  94  94  98  93  95 100  99: 97  95  96  95  95  95  94  94  94  93  93  93  94   95.
  5     94  94  95  97  98 104 102 101 101 101:   :102  97  97  98  98  98                               99.
  6                                           :   :136         118 131 131 130 129 129 129 129 129 130  130.
  7    129 129 129 130 129 129 129 130 129 125:119 119 120 120                                          127.
  8                                        120 120 118 118 127 123 114 113 113 113 112 112 113 113 113  116.
  9    113 112 112 113 113 114 114 114 115 115 115 115 114 113 114 113 114 115 117 113 114 112 113 113  114.
 10    118 116 114 114 114 114 114 116 116 117 118 117 117 116 117 116 119 116 115 115 121 117 115 114  117.
 11    114 114 114 114 114 114 114 114 114 114 115    :   :   :   :118 118 117 116 116 118 117 116 115  116.
 12    114 113 116 116 115 114 114 114 114 113 113 114 114 116 118 117 116 116 116 116 116 115 114 113  115.
 13    113 113 113 113 113 114 114 114 114 113 113 113 113    :   :   :                                 114.
 14                                           :   : 82  83  81  80  79  79  80  79  79  80  79  79  79   80.
 15     79  80  80  80  80  80  80  79  80    : 91  94  92  93  92  91  90  90              90      90   86.
 16     90  89      89  89  89  89  83  89  90    : 91  91     109: 93  92  90  90  91  92  92  91  91   91.
 17     90  91  91  90  90  90          89  90  94  90  95  95  93  92  92  91  89  89  89  89  88  88   91.
 18     87  87  89  88  88  87  88  88  88  88: 91: 91  91  91  90  93  94  94  91  91  91  91  91  91   90.
 19     91  91  91  91  91  91  92  92  92  95  99  97  95  95  94  92  92  94 101  93  93  93  92  92   94.
 20     92  93  93  93  93  93  93  92  92: 91: 91  91  93  94  92  92  91  91  91  91  90  90  90  90   92.
 21     90  91  92  91  91  91  91  91  91  91  91  75  91  91  92  92  91  91  91  91  91  91  91  91   91.
 22     91  91  91  91  90  90  90  90  90  90  91  91  93  92  92  93  93  92  93  94  93  91  91 101   92.
 23     91  91  91  91  91  91  91  91  91  91  91  90  90  90  90  89  89  89  90  91  91  91  91  92   91.
 24     91  91  91  91  92  90  92  96  94  94  92  92  91  92  93  90  91  91  90  90  90  90  91  93   92.
 25     93  93  94  91  91  90  91  91  91  91  91  91  92  92  92  92  92  93  92  92  92  92  92  92   92.
 26    102  92  92  92  92  92  91  91  91  91  91: 92: 91  91  91  91  90  90  90  89  89  89  89  89   92.
 27         89      89                      89  89  90  90  90  91  91  90  92  92  93  96  91  91  91   91.
 28     91  90  90  90  90  90  90  91  90  91  91  91  91  92          95  93  92  91  91  91  90  91   91.
 29     91  90  91  90  90  90  90  90  90  90  93  94  95  92  91  92  92  91  91  90  90  90  90  90   91.
 30     90  90  90  90  90  90  90  90  90:   :   :   :   :   :   :   : 92  91  91  91  91  91  92  93   91.
 31     92  91  91  91  91  92  91  91  91  92  92  91  92  92  91  91  91  91  91  92  92  91  91  92   92.
 MEAN   98. 97. 98. 97. 97. 98. 98. 98. 98. 99.100. 99. 98. 98. 98. 99. 99. 98. 98. 98. 98. 97. 97. 97.

                    TOTAL NUMBER OF OBSERVATIONS =  7323    MEAN  =     98.

       : INDICATES CALIBRATION DURING THE HOUR
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JRC

CORPORATION

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                DIURNAL VARIATION OF NON-METHANE HYDROCARBONS(UG/M**3 X 10**-1)
                      TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                      HOUR
        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24  MEAN
DAY

   1                        :  18   11    7    9   14   23   19      :  15:   8    7   15   12      :    :    :    :  12    5    4    13.
   2    5    6    6                                 :    :   6   12      :    :    :    :    :       160  157                            52.
   3                                                                    :
   4                                                               :
   5                                                          :    :   9    8   10    9    5    6                                        9.
   6                                                          :    :  22             103   16   13   14   14   16   15   15   15   13    22.
   7   10   10   12   13   13   12   13   15   11   14:  21   21   14   21                                                               15.
   8
   9
  10
  11                                                           0      :    :    :    :                                                  0.
  12
  13                           0    0    0    0                                :    :    :                                              0.
  14                                                          :    :   7    8    8    8    8    9   10    9    9    9    9    9    9     9.
  15   10    9   10    9   11    8    8    9    9      :  13   13   13   13   14   14   13   12                  18        10    12.
  16    9    9         1    5    3    2   12   14   14      :  14   19        43:  31   13   11   10   13   13   11    9   12    13.
  17   14   15   13   13   13   12             10   11    9   11    2    0    0    1    1    2    8    3    6    8    4    8     8.
  18    2    0    0    0    0    0    0    0    9   10:  10:   3    1    0    0    0    0    0    0    0    0    0    0    0     2.
  19    0    0    1    0    0    0    0    0    3   21    1    0    2    0    0    0    0    0    0    0    0    0    0    0     2.
  20    0    0    0    0    0    0    0    0    0:   8:   0    0    0    0    0    1   25    5    0    0    0    8    0    0     2.
  21    0    2   10   17   26   24    4   18   60  116   71   47    9   10    9    9   10   10   10   11   11   11   11   11    22.
  22   11   11   11   11   11   11   11   11   14   12   11   46   92   71   43   10   11   12   12   13   12   12   12   10    20.
  23   13   12   16   12   12   12   12   12   12   12   12   12   10   11   10   10   11   11   12   12   13   14   20   12    13.
  24   12   12   12   12   11   22   13   15   15   15   13   18   12   12   13   12   11   11   11   11   11   12   12   11    13.
  25   12   13   12   12   12    8   12   10   18   13   13   13   13   12   13   12   12   10   12   11   12   11   11   11    13.
  26   10   11   12   11   11   11   11   10   11   12   10:   9:   8    8   10    9    9    9    9   10    9   10   10   10    11.
  27        11         7                                10   10   11   11   11   12   12   11   10   11   12   12   11   11   11    11.
  28   11   11   11   11   11   11   11   11   10   13   16   14   13   10                  8    8    9   10   11   11   11   11    12.
  29   11   11   11   11   11   11   11   11   12   12    9   13   12   13   14   13   12   12   12   14   14   13   14   14    13.
  30   14   15   14   13   14   14   14   14   14      :    :    :    :    :    :    :  14   14   14   15   14   14   14   15    15.
  31   14   15   19   14   15   17   15   14   17   15   15   14   14   14   15   14   14   18   14   14   14   14   15   14    15.
 MEAN   9.  10.  10.  10.  11.  10.   8.  10.  15.  20.  15.  15.  14.  12.  16.  10.  11.  17.  18.  10.  10.  11.  10.  10.

                     TOTAL NUMBER OF OBSERVATIONS =  5205    MEAN  =      12.

            : INDICATES CALIBRATION DURING THE HOUR
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CORPORATION

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            DIURNAL VARIATION OF CARBON MONOXIDE(UG/M**3 X 10**-1)
                 TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                        HOUR
         1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24  MEAN
DAY

   1    36   42   38     !  41   78   41   41   42   55   79     !  50!  52   34   49   46     !    !    !    !  30   30   32   46.
   2    29   38   31   31   30   31   34   34!    !  43   24     !    !    !    !    !                           97   91   88   47.
   3    84   80   78   77   76   74   76   75   74   74   75     !  48   41   59   66   71   72   75   75   75   77   76   79   72.
   4    78   77   78   77   76   75   76   75   74   74     ! 104   96   99   93   84   81   79   74   71   71   72   72   72   80.
   5    72   73   74   74   75   74   75   75   74   76!    !  38   73   51   40   38   41   39   40   38   38   39   38   38   56.
   6    38   39   39   38   37   39   38   40   39   39!    !  62   76   71   83   93   91   95   95   96   88   97   97   97   67.
   7   107   96   97  110   95  104   94   92   95   95!  98   97   97   97   96   96   95   93   93   93   93   92   93   91   97.
   8    90   91   92   89   90   91  120   90   91   93   95   93   92   98   86   67  108   64   64   58   60   60   59   57   84.
   9    60   58   58   58   60   56   56   54   54   55   61   58   57   54   55   54   51   52   50   50   48   49   48   48   55.
  10    49   49   50   49   47   50   47   47   47   48   47   49   49   49   51   49   54   50   51   48   51   48   50   49   50.
  11    49   46   47   49   47   48   50   50   50   50   50     !    !    !    !  80   42   48   48   48   46   47   46   48   50.
  12    49   73   66   52   49   45   45   46   47   46   48   50   82   70   48   87   47   46   46   43   47   45   45   45   53.
  13    43   46   46   44   44   45   45   45   46   43   45   50   50     !    !    !                                          46.
  14                                                   !    !  42   43   42   35   33   33   32   31   47   46   32   53   38   39.
  15    38   31   77   30   33   32   32   34   33     !  66   23   22   23   21   23   22   22   23   22   22   21   21   22   31.
  16    21   21   21   21   22   64   20   21   62   21     !  24   25   24   27!  25   23   23   22   23   23   21   22   23   26.
  17    20   22   22   22   21   22   21   22   22   24   22   23   22   40   23   24   23   22   22   22   22   21   20   20   23.
  18    23   30   23   22   22   21   21   22   22   23!  23!  21   22   21   21   21   21   20   20   20   21   53   20   19   23.
  19    21   22   19   19   19   20   19   45   19   21   21   21   21   22   24   21   22   21   22   20   82   21   20   21   25.
  20    22   21   22   22   22   22   23   22   22!  36!  27   27   44   26   26   25   26   26   24   25   25   22   24   24   25.
  21    25   24   40   25   24   25   23   24   24   24   23   42   21   22   28   28   26   26   27   47   26   25   27   25   28.
  22    25   25   24   25   23   25   25   24   24   25   25   26   30   25   26   27   26   25   25   24   26   26   22   24   26.
  23    24   50   31   23   25   24   48   25   24   24   24   22   46   28   23   46   22   22   22   23   22   57   22   24   29.
  24    23   24   26   24   22   26   21   23   24   23   23   24   23   23   69   24   24   24   24   24   24   25   24   22   26.
  25    24   25   25   25   39   66   23   24  105   37   60   35   27   27   29   82   41   53   59   66   70   76   77   79   49.
  26    82   82   82   85   90   84   81   78   78   81   81!  98!  83   73   69   66   62   58   56   52   50   52   51   50   72.
  27    49   49   49   69   48   47   48   48   46   46   49   51   51   32   22   23   28   29   22   21   22   23   22   22   38.
  28    22   23   22   23   21   21   20   21   22   20   26   27   28   29             36   32   29   23   21   21   22   20   25.
  29    21   21   20   20   20   19   19   20   23   28   27   15   15   16   14   14   14   13   14   12   13   12   12   12   18.
  30    11   11   12   13   13   13   12   11   12     !    !    !    !    !    !    !  15   14   12   14   13   13   14   13   13.
  31    13   13   13   13   15   13   52   14   15   16   16   14   15   16   17   16   16   16   16   16   16   16   15   39   18.
MEAN   42.  44.  45.  43.  42.  46.  44.  42.  46.  45.  46.  44.  47.  44.  44.  47.  42.  40.  40.  40.  42.  43.  41.  42.

                  TOTAL NUMBER OF OBSERVATIONS =  8122     MEAN  =      43.

       ! INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF OZONE(UG/M**3)
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	92	95	94	92:	90	89	84	87	83	86	87	93:	91:	91	93	92	87	:	:	:	77	77	79	81	88
2	84	81	80	80	80	81	80	84:	62:	70	72	72	71	70	69	70:	59:	68	64	54	46	47	47	49	69
3	51	51	50	50	46	47	46	47	44	42	44	:	69	63	58	55	48	42	43	48	55	56	55	58	51
4	58	57	57	55	58	55	58	53	52	51	63:	68	74	74	77	77	74	71	77	73	71	70	71	68	66
5	68	61	59	54	50	50	47	50	63	62:	48:	48	66	67	64	63	62	60	57	58	57	60	61	61	59
6	52	62	61	61	56	48	46	45	46	57:	76:														56
7										80:	70	65	64	65	66	65	64	63	64	64	65	63	66	65	66
8	64	64	66	65	63	63	63	62	62	64:	63	64	63	62	61	60	59	60	61	59	60	61	62	61	63
9	61	62	60	59	59	59	58	55	58	61	63:	64	66	71	73	70	67	61	51	50	53	53	54	58	61
10	62	52	50	55	54	52	52	50	48	50	44:	59:	63	65	68	69	68	63	60	63	64	63	66	68	60
11	70	71	71	74	72	73	74	73	68	69	63	:	67:	61:	59:	62	62	59	55	58	61	57	61	63	66
12	62	60	63	65	65	65	54	66	64	56	56	63	64	64	64	63	62	56	57	59	63	61	61	65	62
13	65	63	64	65	64	65	57	68	65	67	72	71	69	68	64	75:	78	77	77	79	83	83	84	83	72
14	79	78	78	79	81	62	79	77	73	74:	:	69	71	72	68	67	66	63	61	66	65	66	67	63	72
15	64	63	59	60	61	62	53	61	62	62:	63	72	74	73	78	78	76	71	72	71	74	72	73	74	69
16	74	76	74	74	74	73	70	65	67	67	62:	67	72	70	80:	66	68	63	65	67	68	66	66	66	70
17	66	67	68	67	68	69	68	69	68	62	62	67	68	70	70	70	66	65	69	67	67	69	71	71	68
18	71	72	70	72	71	72	74	75	72	68:	61:	68	68	68	66	61	58	60	62	64	65	67	66	64	68
19	65	65	63	58	57	63	63	62	58	55	57	55	58	61	64	58	68	64	62	61	59	57	59	60	61
20	61	61	60	62	60	59	51	61	56:	57:	64	68	69	73	73	72	69	63	60	63	65	70	73	76	65
21	77	77	77	73	72	70	72	70	68	71	75:	76:	76	77	77	77	73	68	70	72	68	67	68	69	73
22	72	70	68	58	67	69	69	68	67	63	70:	79	75	80	80	76	74	71	67	69	71	73	75	74	72
23	75	75	75	73	70	71	71	72	70	73	76	79	78	77	76	75	74	74	73	72	70	69	67	67	73
24	67	66	66	67	64	65	50	55	59	61:	63:	62	65	67	66	68	68	66	64	64	63	63	64	60	64
25	56	58	59	61	62	62	61	63	62	57	68	69	69	70	70	69	65	63	63	63	63	68	69	65	64
26	65	66	67	66	66	66	56	67	65	69	68:	67:	67	67	65	65	64	63	63	63	62	62	63	63	66
27	63	64	64	63	63	63	64	63	65	65	64	64	70	73	75	70	69	69	68	69	66	67	66	66	67
28	67	67	67	69	69	71	71	71	69:	66:	73	79	77	77			67	66	65	65	65	68	70	71	70
29	69	69	71	71	70	67	70	67	68	68	69	67	66	65	68	67	67	68	65	66	67	67	68	68	68
30	70	69	68	67	69	68	58	65	65	65	66	59	53	56	60	60	59	58	55	57	53	57	58	57	62
31	58	55	57	59	61	62	54	67	65	67	69	70	71	75	78	79	80	79	78	79	79	77	76	75	70
MEAN	68	67	67	66	66	66	65	65	64	64	66	68	69	71	71	70	68	65	64	65	65	66	67	67	

TOTAL NUMBER OF OBSERVATIONS = 8387 MEAN = 67.

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

HOURLY TOTAL PRECIPITATION(HUNDREDTHS OF INCHES)
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.
TOTAL	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	

TOTAL NUMBER OF OBSERVATIONS = 8849 TOTAL = 0.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 8 FEET(MPH)
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	10	3	2	5	3	2	2	1	0	0	1	2	2	2	2	2	1	2	2	1	3	2	2	1	3.
2	1	2	1	2	1	1	2	1	1	3	1	5	6	7	8	8	7	5	3	2	2	3	2	2	4.
3	3	2	3	3	1	2	2	2	1	1	1	1	2	1	3	3	2	4	2	2	1	2	1	1	2.
4	1	1	1	2	1	1	2	2	2	2	2	3	8	6	5	5	3	5	8	5	2	1	2	2	4.
5	1	1	2	2	1	1	1	0	1	2	4	7	7	9	7	6	3	1	1	2	2	2	1	1	3.
6	1	1	1	0	1	0	0	0	0	0	0	3	3	2	2	1	3	4	3	1	2	6	2	7	2.
7	9	8	6	3	0	1	1	2	2	2	3	2	4	7	8	7	8	7	7	2	3	1	6	5	5.
8	2	2	3	1	2	2	1	2	2	6	10	11	10	11	10	8	5	1	3	1	7	17	19	5	6.
9	6	3	8	5	13	10	5	2	4	9	14	11	10	12	12	10	9	4	3	3	2	1	4	6	7.
10	8	6	4	5	3	2	1	1	1	2	4	2	2	3	4	6	1	0	2	2	1	1	1	1	3.
11	1	1	1	1	1	1	1	0	0	0	2	4	3	2	1	0	0	1	4	1	1	2	2	1	2.
12	2	2	1	0	1	1	2	0	0	1	1	2	4	4	2	3	3	3	2	0	1	1	2	1	2.
13	1	0	0	2	3	2	2	2	1	4	8	9	9	9	8	5	3	4	3	2	2	1	1	2	4.
14	2	2	2	2	1	0	1	2	1	1	0	2	2	2	3	3	1	1	2	1	1	0	0	2	2.
15	1	1	1	2	1	1	1	1	0	0	3	5	6	6	4	2	3	2	2	1	0	0	0	2	2.
16	2	0	1	2	2	1	2	1	0	1	2	2	3	3	2	3	1	4	2	1	0	0	2	0	2.
17	0	0	0	0	1	0	1	0	0	0	1	2	2	2	2	2	2	1	1	2	1	1	1	2	2.
18	0	1	2	2	2	2	2	3	2	1	2	6	6	5	6	4	1	1	2	1	2	1	1	1	3.
19	0	1	1	3	2	1	0	1	1	3	4	5	6	7	7	8	6	2	2	2	1	2	3	1	3.
20	0	0	1	1	0	2	0	0	0	2	2	2	2	2	2	2	1	2	3	1	2	1	1	2	2.
21	2	2	3	2	4	3	3	4	3	2	5	6	5	4	3	4	4	3	1	0	2	1	2	1	3.
22	1	1	2	2	1	1	0	1	0	1	3	3	5	6	4	3	1	2	2	1	2	1	1	2	2.
23	2	1	3	2	2	2	2	2	2	2	5	10	10	5	8	5	2	3	9	9	11	10	9	10	6.
24	10	6	6	3	1	2	3	2	4	3	5	3	6	5	3	7	8	5	3	3	1	0	1	1	4.
25	1	0	2	1	2	1	0	1	1	1	1	1	2	1	3	6	6	5	2	2	3	3	4	4	3.
26	2	4	2	2	3	3	3	2	2	2	3	8	5	6	8	10	9	8	3	2	2	3	2	3	4.
27	4	6	7	4	4	8	5	8	8	9	7	8	17	15	11	9	5	2	2	1	2	2	2	1	7.
28	2	3	2	1	0	1	0	1	0	0	1	1	2	4			5	2	1	1	2	2	2	2	2.
29	3	2	1	4	1	1	2	1	2	2	3	2	4	4	6	8	8	10	2	2	2	2	2	2	4.
30	2	1	2	2	7	2	3	2	0	4	6	6	5	6	7	5	5	3	0	0	1	1	0	0	3.
31	1	2	0	0	0	1	2	4	1	4	6	9	10	12	12	11	9	6	6	2	4	6	3	6	5.
MEAN	3.	3.	3.	3.	3.	2.	2.	2.	2.	3.	4.	5.	6.	6.	6.	6.	5.	4.	3.	2.	3.	3.	3.	3.	

TOTAL NUMBER OF OBSERVATIONS = 8845 MEAN = 3.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 30 FEET(MPH)

TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	14	4	4	7	7	3	5	2	2	0	2	2	3	3	3	3	1	4	2	3	7	3	3	1	4.
2	2	4	3	2	2	2	3	1	2	3	2	6	7	9	11	10	10	8	4	3	3	4	3	3	5.
3	4	4	4	4	3	3	3	3	2	2	1	2	2	1	4	4	3	6	3	2	1	2	2	0	3.
4	0	1	1	3	2	1	2	3	3	3	3	4	9	7	6	7	4	7	11	7	3	3	3	3	4.
5	2	2	3	4	2	1	1	1	2	3	5	8	8	11	9	8	6	2	1	1	3	3	2	1	4.
6	2	2	1	0	2	0	1	1	0	0	0	3	4	3	2	1	5	7	6	2	4	8	4	10	3.
7	12	11	8	4	2	2	2	3	3	3	4	3	6	9	10	10	11	9	9	4	4	3	9	7	7.
8	3	4	5	3	3	2	2	3	2	8	13	13	13	14	13	11	8	3	4	3	10	22	24	8	8.
9	9	5	12	8	18	14	8	3	5	12	19	14	13	15	15	12	13	6	4	6	4	3	7	9	10.
10	11	9	6	7	5	4	3	2	2	4	5	3	3	5	5	6	3	1	1	2	1	2	2	2	5.
11	2	2	3	2	2	2	2	0	1	1	2	5	4	3	2	0	1	1	6	3	1	3	3	2	3.
12	3	3	1	0	1	1	4	0	1	0	1	3	5	4	3	4	5	4	4	1	0	2	3	2	3.
13	2	1	1	3	5	4	3	4	3	5	10	12	11	12	10	7	5	6	5	4	3	2	3	3	6.
14	3	2	4	4	3	1	1	3	2	1	1	2	3	3	4	4	3	2	4	1	3	0	1	3	3.
15	2	2	2	4	3	2	2	2	0	0	4	7	8	7	6	4	5	3	2	2	1	1	2	3	4.
16	3	1	2	2	3	2	3	1	2	1	3	3	4	4	3	4	1	5	3	1	0	1	3	1	3.
17	1	0	0	1	0	1	1	0	0	0	1	3	3	3	2	2	3	2	1	2	3	1	1	3	2.
18	0	1	2	3	3	3	5	5	3	2	2	7	7	7	8	5	2	1	4	2	3	2	2	1	4.
19	0	0	2	5	3	0	0	1	1	4	5	6	8	9	10	11	10	5	3	2	2	4	4	1	4.
20	0	0	1	1	1	3	1	0	1	2	2	3	3	2	3	2	2	4	5	1	3	1	2	4	2.
21	4	4	4	4	5	4	3	6	4	3	7	7	7	5	4	6	6	5	1	0	2	2	2	1	5.
22	2	0	2	2	2	1	0	1	1	3	4	4	6	7	5	4	3	3	3	1	2	2	1	2	3.
23	2	1	4	3	4	3	3	3	3	3	7	12	12	6	11	6	3	4	12	13	15	13	11	14	7.
24	13	9	9	5	2	2	4	4	6	4	7	5	8	7	6	9	11	8	5	4	1	0	1	2	6.
25	3	0	2	2	3	1	1	2	2	1	2	2	3	2	5	8	9	7	3	4	5	5	6	7	4.
26	4	6	4	4	4	5	4	3	3	3	5	10	7	7	10	13	11	11	4	3	4	5	3	5	6.
27	5	8	9	6	6	11	8	11	12	12	9	11	22	20	14	12	8	5	3	4	4	4	4	2	9.
28	4	6	4	2	1	2	1	2	2	0	2	2	3	5			7	5	2	1	3	3	4	4	3.
29	5	3	4	8	3	1	2	2	3	4	4	3	5	6	8	11	11	13	4	3	4	4	4	3	5.
30	3	3	5	4	10	4	5	4	2	7	8	8	7	8	9	7	7	5	2	0	2	1	0	0	5.
31	2	3	1	1	1	3	5	6	2	6	8	11	14	15	15	15	13	9	9	5	6	7	5	9	8.
MEAN	4.	4.	4.	4.	4.	3.	3.	3.	3.	4.	5.	6.	7.	8.	8.	7.	7.	6.	5.	3.	4.	4.	4.	4.	

TOTAL NUMBER OF OBSERVATIONS = 8844 MEAN = 5.

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

DIURNALI VARIATION OF WIND SPEED AT 100 FEET(MPH)
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	17	5	5	9	10	5	4	4	2	0	2	2	3	3	3	3	1	4	2	4	8	2	4	1	5.
2	1	4	2	2	2	3	1	1	3	4	2	7	8	10	12	13	13	12	6	4	3	3	2	3	6.
3	3	4	3	4	4	3	6	4	2	2	1	3	3	1	5	4	4	10	3	2	1	1	2	1	4.
4	0	0	1	2	0	1	4	5	5	3	3	5	11	8	7	8	6	9	14	10	4	3	4	5	5.
5	1	3	5	5	2	2	2	2	3	3	6	10	10	13	10	9	8	4	2	0	2	3	2	1	5.
6	2	2	0	1	2	0	2	1	0	0	1	4	5	4	2	1	6	10	11	6	8	11	5	13	5.
7	15	14	11	6	2	3	3	3	5	3	5	4	7	10	12	11	13	12	11	5	5	4	12	11	8.
8	5	5	9	5	2	2	2	3	2	10	15	15	15	15	15	12	9	4	5	5	14	27	29	9	10.
9	12	7	16	12	23	17	11	3	7	15	22	16	15	17	18	15	15	8	6	8	5	5	9	11	13.
10	13	12	8	8	7	6	5	4	3	4	6	4	3	5	6	9	5	2	0	2	1	3	3	2	5.
11	1	1	3	1	1	3	2	0	1	1	2	5	4	3	2	0	2	2	6	3	1	4	4	1	3.
12	1	4	1	0	1	0	2	1	0	0	1	3	5	5	3	5	6	3	3	1	0	2	1	1	3.
13	3	1	0	3	7	6	5	3	4	7	12	14	12	13	11	8	6	7	7	5	5	1	2	6	7.
14	6	1	3	5	2	1	1	2	2	2	1	2	4	3	5	5	4	2	3	1	1	0	0	3	3.
15	3	3	4	4	1	1	3	1	0	1	4	7	9	8	7	4	7	3	1	1	1	2	2	2	4.
16	2	2	3	2	3	1	3	1	3	2	3	3	4	4	4	5	1	6	3	0	0	1	1	1	3.
17	1	0	0	0	0	1	2	0	0	0	1	3	3	3	3	2	2	1	0	0	1	1	2	1	2.
18	0	3	3	6	2	3	5	6	5	2	3	9	8	7	9	6	3	1	5	2	2	1	1	1	4.
19	0	0	1	6	4	2	0	1	2	4	5	7	8	10	11	12	12	6	3	2	2	3	4	0	5.
20	0	0	1	0	0	2	1	0	1	3	3	3	3	2	3	3	3	4	4	0	3	2	3	4	2.
21	5	5	4	4	6	3	3	7	4	4	8	8	7	5	4	6	8	9	2	1	0	1	2	1	5.
22	3	0	0	2	2	1	0	1	1	4	5	4	7	8	6	5	5	4	3	1	0	1	0	2	3.
23	3	1	5	1	3	3	4	5	4	4	9	14	14	7	12	8	5	6	15	17	20	17	14	17	9.
24	16	12	13	8	3	4	6	5	7	5	8	5	10	8	7	11	14	10	6	5	2	2	1	1	7.
25	2	1	1	1	3	1	2	2	4	1	2	2	4	2	5	10	12	10	5	7	7	7	8	9	5.
26	5	9	5	3	5	6	5	3	2	4	6	11	8	8	12	15	14	14	6	5	6	6	4	7	8.
27	6	10	12	8	8	15	11	15	16	15	11	13	26	24	16	14	10	7	3	6	7	7	5	3	12.
28	6	7	6	3	1	1	0	1	3	1	2	2	3	6			9	9	3	3	2	2	2	4	4.
29	5	5	8	11	6	2	4	3	4	5	5	4	5	7	9	13	14	18	4	4	5	3	4	4	7.
30	4	6	7	5	14	7	9	7	2	9	10	8	8	10	10	8	8	6	3	0	1	1	0	0	6.
31	3	1	1	1	1	4	6	8	4	7	9	13	16	18	18	18	16	11	12	7	8	11	7	12	9.
MEAN	5.	5.	5.	5.	5.	4.	4.	4.	4.	5.	6.	7.	8.	8.	9.	9.	8.	7.	6.	4.	5.	5.	5.	5.	

TOTAL NUMBER OF OBSERVATIONS = 8846 MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

DIURNAL VARIATION OF WIND SPEED AT 200 FEET(MPH)
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	19	5	6	11	13	7	2	3	2	0	2	3	4	4	4	3	2	4	1	4	8	2	2	1	5.
2	1	3	3	0	2	2	0	0	2	4	2	7	9	10	13	14	16	17	7	2	2	2	3	3	6.
3	4	5	3	4	7	3	4	5	4	3	2	4	3	1	5	4	5	12	4	1	1	2	4	2	4.
4	1	0	0	1	1	0	5	5	4	3	2	5	12	9	8	10	7	10	16	12	5	5	6	6	6.
5	2	4	8	6	2	3	3	2	4	5	7	11	11	14	11	10	9	5	2	1	2	3	0	3	6.
6	2	2	0	2	1	1	1	1	0	1	1	4	5	4	3	2	6	11	13	12	13	14	7	17	6.
7	18	16	13	8	2	4	7	4	7	3	5	4	7	10	13	13	16	16	14	6	7	6	17	15	10.
8	9	9	15	10	4	5	7	7	4	11	15	16	16	18	16	13	11	5	5	6	19	33	35	11	13.
9	14	9	20	16	29	22	14	4	8	17	25	17	17	19	20	17	18	9	6	10	5	7	11	13	15.
10	15	13	10	9	9	8	7	6	2	4	5	4	4	6	6	10	5	4	1	3	2	1	2	3	6.
11	1	2	1	1	0	3	3	1	1	1	2	4	3	3	2	1	1	2	7	3	1	3	3	2	3.
12	1	4	2	0	0	2	1	1	0	1	1	4	5	5	3	5	7	5	3	2	1	2	1	1	3.
13	3	1	0	3	6	5	5	1	6	9	13	15	14	14	12	9	6	8	9	7	7	1	3	7	7.
14	11	5	2	3	3	2	1	1	2	2	1	2	4	3	5	5	3	2	3	0	1	1	0	2	3.
15	2	4	5	3	1	2	2	1	1	1	3	7	9	9	7	4	7	5	0	1	1	2	2	2	4.
16	0	2	4	1	1	1	3	1	3	4	3	2	4	4	4	5	2	4	4	1	0	0	0	2	3.
17	2	0	0	0	0	1	1	1	0	0	0	2	3	3	2	2	2	2	0	0	0	0	3	2	1.
18	2	7	9	6	3	1	5	4	3	1	4	9	8	8	10	6	3	0	4	1	1	0	0	1	5.
19	0	2	2	2	3	1	0	1	2	6	5	7	8	11	11	13	13	7	3	2	4	3	5	1	5.
20	0	0	0	1	1	0	0	0	1	2	2	3	3	2	3	3	3	2	3	0	3	1	2	1	2.
21	3	3	2	3	6	2	3	7	2	4	8	8	8	5	5	7	9	11	3	1	0	0	2	1	5.
22	2	2	1	2	1	0	0	1	1	5	5	4	7	9	6	6	5	5	4	1	1	1	1	2	3.
23	3	2	3	1	3	3	6	5	5	6	10	15	14	7	14	9	6	8	20	20	25	20	17	20	11.
24	19	15	17	12	5	6	7	5	8	6	8	5	10	8	7	11	15	12	7	6	3	3	1	0	9.
25	1	0	1	0	4	3	1	3	4	2	2	2	3	2	5	10	14	13	9	11	9	11	10	11	6.
26	8	13	8	5	8	5	5	6	4	6	6	11	8	9	12	17	17	16	7	6	6	8	6	8	9.
27	7	12	15	11	12	20	15	18	20	18	12	13	27	25	18	15	11	8	4	7	9	9	6	3	14.
28	5	6	7	5	2	1	1	1	3	2	2	2	3	6			11	13	9	9	3	3	3	4	5.
29	7	9	11	15	12	7	7	8	5	5	5	4	6	7	10	14	16	22	6	4	5	4	5	5	9.
30	6	10	10	7	18	11	12	11	3	10	10	8	8	10	11	8	8	7	3	1	1	0	0	0	8.
31	2	1	0	1	1	5	7	12	6	8	10	14	16	20	19	19	18	13	15	10	11	14	11	15	11.
MEAN	6.	6.	6.	5.	6.	5.	5.	4.	4.	5.	6.	8.	9.	9.	9.	9.	9.	9.	7.	5.	5.	6.	6.	6.	

TOTAL NUMBER OF OBSERVATIONS = 8846 MEAN = 6.

* INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	292	271		282	250	218	208	32	29	76	116	47	132	64	45	295	195	172	198	165	77	108	130	126.
2	190	110	156	77	121	158	114	91	65	84	348	267	220	214	205	204	202	188	102	98	134	120	94	71	136.
3	90	105	127	104	125	68	99	116	66	59	71	220	283	87	17	4	258	223	86	84	104	180	165	174	106.
4	191	209	220	203	151	189	134	103	118	68	31	264	212	194	176	202	229	191	194	161	268	285	222	250	195.
5	240	261	273	268	226	279	120	169	277	293	324	348	314	344	343		311	262	241	213	224	215	203	236	263.
6	208	203	139	182	211	87	273	123	157	290	303	9	340	32	64	165	175	171	175	193	161	175	121	186	172.
7	191	167	169	150	61	105	103	62	128	101	206	202	202	207	203	191	181	188	190	197	162	129	195	177	166.
8	144	111	187	127	53	51	35	74	73	170	181	188	194	188	197	193	170	147	151	151	186	184	176	133	152.
9	165	189	174	146	182	176	159	84	48	182	193	212	228	226	214	233	227	241	289	287	271	267	305	316	215.
10	327	318	306	300	308	285	268	263	222	278	304	334	307	3	360	352	380	179	214	219	204	250	122	220	285.
11	203	221	238	108	216	243	136	230	223	245	346	293	290	277	215	168	321	227	234	218	150	137	152	218	220.
12	230	238	150	223	254	218	221	192	226	20	12	318	304	309	355	307	273	230	221	152	198	210	217	172	238.
13	191	221	135	140	135	129	136	188	124	151	190	190	214	211	207	213	169	161	126	102	102	98	109	147	158.
14	75	47	83	115	144	179	33	212	73	81	46	6	326	291	360	358	343	188	223	182	219	183	230	234	109.
15	187	206	357	165	186	213	204	76	227	105	350	300	316	340	4	317	299	234	215	208	177	88	204	220	228.
16	182	185	119	167	201	227	231	137	126	70	12	357	359	359	344	308	274	231	228	195	207	195	233	281	219.
17	269	149	279	205	183	238	264	143	340	358	10	292	309	58	315	301	271	208	214	194	238	176	161	229	245.
18	139	173	216	166	105	150	153	143	102	97	96	211	212	206	215	278	261	196	212	203	188	199	163	250	182.
19	165	168	205	231	184	212	190	165	257	257	292	301	301	349	1	12	13	314	229	237	232	237	200	32	245.
20	240	227	190	186	211	201	150	210	73	86	34	343	325	358	14	5	280	226	220	196	185	183	124	148	198.
21	123	122	122	138	137	86	124	120	83	131	198	197	208	187	220	213	224	216	153	147	219	206	197	122	163.
22	191	197	221	215	197	173	215	241	120	65	66	24		346	351	334	51	130	199	206	229	162	163	226	188.
23	173	181	143	86	102	86	80	91	71	148	177	198	191	199	211	200	154	166	200	204	199	198	189	196	165.
24	198	196	203	219	308	128	264	251	254	275	298	319	322	339	349	358	360	358	301	251	229	175	202	216	267.
25	192	206	128	209	203	36	146	199	125	72	163	68	29	89	186	206	196	203	144	183	144	155	131	148	156.
26	109	163	145	60	89	88	90	84	59	141	200	215	190	204	193	202	192	179	138	113	104	104	120	116	134.
27	130	152	179	158	161	195	189	192	204	206	220	286	288	286	317	349	324	351	226	18	291	257	208	182	226.
28	212	225	210	176	133	200	168	199	141	133	303	300	16	204			198	199	118	64	71	78	48	99	160.
29	104	97	123	177	106	55	97	71	75	97	181	215	191	176	205	200	197	200	75	93	114	99	104	90	128.
30	98	121	122	111	195	157	182	168	101	203	204	287	284	299	330	303	307	278	216	89	217	209	191	179	197.
31	135	226	158	141	157	144	175	189	171	196	209	206	208	208	213	215	209	207	197	187	181	194	190	189	188.
MEAN	173.	184.	172.	163.	167.	165.	160.	154.	115.	115.	297.	274.	274.	257.	283.	264.	251.	207.	193.	177.	188.	176.	170.	184.	

TOTAL NUMBER OF OBSERVATIONS = 8644 MEAN = 186.

I INDICATES CALIBRATION DURING THE HOUR

CORPORATION

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                      DIURNAL VARIATION OF WIND DIRECTION AT  30 FEET
                      TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                              HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

   1    10 282 284 291 287 269 211 193  77  33  82 115  15 266  11  34 271 191 174 170 164  96 119 126    176.
   2   196 116 162  89 129 165 125 130  65  86 323 249 220 213 205 206 201 190  95 105 128 125 107  86    146.
   3   106 128 132 111 145  80  98 126  86  70  73 221 247 172  17 355 272 213  97  91  59 178 182 166    123.
   4   173 228 203 203 173 213 157 115 119  70  27 252 211 196 177 203 229 196 197 161 283 286 206 248    198.
   5   246 273 278 272 234 271 133 179 278 292 320 327 320 323 330 332 311 285 277 213 226 218 183 221    269.
   6   251 199 162 156 199 207 249 145 177 276 276  10 339  50  61 179 172 171 174 185 178 175 129 187    185.
   7   191 167 170 158  79 118 141  74 148 106 208 204 205 207 206 191 182 190 191 200 166 140 198 186    171.
   8   153 123 198 333  74  74  81 100  92 166 179 188 197 189 200 195 176 148 164 160 187 185 176 136    158.
   9   171 200 176 153 182 178 168  91  47 184 195 212 230 226 216 233 228 258 299 291 269 273 346 321    219.
  10   332 323 305 301 307 290 277 272 227 275 299 323 309     357 340   6 146 200 200 197 283 111 204    286.
  11   206 207 252 103 225 250 130 181 226 239 330 292 294 295 237 175 315 252 237 227 131 122 149 218    224.
  12   238 247 154 138 273 235 215  79 222  44   7 314 297 278 329 305 277 237 216 122 207 213 219 155    238.
  13   160 176 112 131 139 135 141 170 128 155 192 196 215 212 209 214 171 162 140 116 121 106 119 155    157.
  14   115  68  89 116 148 191 343 218  94  88  68 325 344 281   4   4 348 153 218 167 220 192 253 244    143.
  15   182 166  55 162 184 218 206  76 153 119 349 300 307 345 358 314 300 239 201 178 130 156 203 208    197.
  16   167 154 158 213 142 231 230 131 114  83  15 356 358 355 342 301 263 234 238 198 194  45 238 310    219.
  17   330  95 303 212 154 197 296 142 292 301   8 298 298 306 307 295 272 218 208 190 272 186 128 240    258.
  18   279 171 172 168 122 146 154 140 103  99  88 208 211 205 214 273 261 195 198 182 186 182 185 283    183.
  19   146 145 219 241 208 210 136 189 209 258 280 296 292 334   7  14  12 324 236 253 238 237 210  19    247.
  20   312 180 182 168 267 189  42 184  76  89  36 345 314 286  25 332 276 234 219 187 164 195 123 151    202.
  21   125 133 125 145 138  98 122 124  88 137 198 198 208 186 216 214 224 208 209 139 207 188 202  95    165.
  22   151 187 230 199 200 184 230 246 129  75  70 126 343     345 323  74  89 202 170 223 169 124 215    173.
  23   179 170 137  96 110  98 107 113  84 155 194 198 190 209 212 201 175 173 202 206 199 196 187 197    169.
  24   198 197 202 213 286 156 276 255 253 274 297 312 324 339 346 345 360 360 301 254 247 104 171 175    268.
  25   157 256 116 192 183 174 130 190 139  91 182  47  35  92 191 210 197 201 152 184 151 160 132 149    160.
  26   125 164 118  81  99  95 110 102  68 159 202 215 193 207 195 203 191 181 142 134 112 115 122 114    143.
  27   155 155 182 164 165 196 192 194 206 207 219 288 287 287 312 342 328 335 265  12 301 267 216 194    235.
  28   203 206 203 184 130 176 163 191 143 145  24 199   7 209         199 197 149 105  79  92  62 107    156.
  29   117 126 159 183 131  92 128  97  92  94 183 212 198 177 206 202 199 200  90 110 126 111 122 118    144.
  30   127 160 145 130 196 173 187 181 125 205 206 288 286 299 324 308 304 290 220 264 215 214 167 149    209.
  31   129 224 182 116 143 159 184 193 186 199 209 207 211 210 215 214 212 210 199 194 186 197 200 193    192.
 MEAN  172.177.174.164.168.177.162.153.130.132.271.258.275.247.282.267.249.208.198.177.187.174.167.178.

                   TOTAL NUMBER OF OBSERVATIONS =  8670     MEAN  =     187.

            : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	291	298	292	300	309	236	211	179	51	92	124	32	360	359	30	297	182	199	142	163	91	133	71	23.
2	180	129	179	123	140	151	129	178	62	102	351	250	223	217	208	207	200	194	122	113	129	130	144	111	156.
3	140	152	139	135	176	110	103	148	146	127	103	223	222	46	352	360	288	214	114	68	344	256	225	182	148.
4	91	227	247	211	241	212	173	130	114	83	28	297	218	200	182	209	233	206	203	164	300	307	251	253	212.
5	262	301	298	289.	249	279	161	203	289	308	330	341	331	329	338	343	325	333	351	82	268	246	172	201	295.
6	285	199	335	100	167	170	255	191	190	286	299	10	22	35	66	177	171	174	179	195	196	181	153	193	189.
7	193	170	177	167	109	142	173	111	171	123	211	210	209	211	209	195	185	193	194	196	175	173	200	193	180.
8	175	160	195	188	159	153	167	165	152	170	181	192	201	192	203	198	181	153	166	177	198	187	179	147	177.
9	179	204	181	167	186	184	178	120	117	189	199	216	235	231	219	237	233	272	310	304	284	292	316	330	221.
10	334	329	316	312	317	311	302	295	246	282	305	331	346	356	2	349	6	45	125	186	160	308	77	147	326.
11	185	83	279	131	15	254	176	74	222	219	41	297	299	300	270	158	335	339	263	263	124	113	130	136	224.
12	236	272	208	95	65	89	219	30	124	158	13	320	303	304	343	310	291	275	251	156	105	195	261	128	254.
13	146	205	49	106	134	135	135	156	151	168	195	204	217	216	213	217	174	164	154	153	156	107	140	164	163.
14	189	144	104	121	162	182	261	209	40	98	54	319	334	300	340	11	354	54	254	106	173	24	16	276	49.
15	210	179	121	156	165	208	244	101	22	151	357	307	311		352	326	311	289	209	154	80	359	169	161	199.
16	188	153	183	135	169	122	315	118	104	95	35	11	2	360	352	322	289	262	288	238	215	14	290	296	304.
17	296	114	2	303	113	103	299	41	34	200	12	306	318	314	312	301	285	268	178	271	340	222	86	248	310.
18	191	176	178	165	146	140	155	140	111	98	148	214	216	210	217	280	292	207	197	181	191	171	224	358	183.
19	68	75	46	262	254	221	29	40	85	285	281	298	297	334	8	13	16	360	255	292	304	278	254	273	320.
20	34	96	267	80	354	216	357	294	87	109	42	1	332	317	8	359	296	266	240	248	142	149	125	157	1.
21	138	142	128	142	145	110	103	139	103	154	203	203	211	202	224	219	229	211	217	91	177	225	262	100	170.
22	120	109	223	186	213	189	176	293	129	105	81	29	342		354	326	66	334	253	118	143	205	108	195	147.
23	202	160	135	98	141	138	144	138	121	182	186	202	193	217	216	206	199	187	208	209	204	201	192	200	180.
24	202	201	206	212	273	197	281	279	263	283	302	338	324	349	2	347	3	360	307	272	309	44	116	156	291.
25	182	356	152	171	176	147	92	184	162	127	186	38	53	86	198	213	200	202	172	184	165	171	144	154	161.
26	171	177	160	126	137	118	148	132	117	171	204	220	197	211	199	207	195	186	162	161	131	136	158	128	165.
27	151	167	189	177	182	201	198	200	210	212	224	288	293	293	312	332	335	353	194	11	325	292	249	234	242.
28	217	219	217	217	295	136	123	174	168	139	135	249	15	212			204	198	177	196	118	126	106	129	175.
29	140	172	185	196	188	175	191	168	134	105	188	217	200	183	211	206	202	201	132	133	147	140	156	154	172.
30	165	186	174	150	198	187	194	194	162	210	210	291	290	305	332	316	311	298	233	310	257	269	14	59	239.
31	104	170	95	60	108	175	192	200	191	204	213	210	215	215	218	216	215	215	204	204	194	204	196	197	191.
MEAN	176.	170.	185.	158.	173.	169.	182.	160.	139.	156.	188.	275.	280.	270.	289.	275.	263.	234.	205.	180.	181.	193.	170.	172.	

TOTAL NUMBER OF OBSERVATIONS = 8701 MEAN = 192.

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	300	302	303	315	333	269	236	242	283	92	123	23	26	9	24	294	176	216	143	169	214	121	21	305.
2	74	137	198	343	118	154	183	354	30	116	349	250	227	220	212	210	205	202	139	130	148	145	190	182	171.
3	185	182	173	164	193	160	114	178	195	158	146	225	263	89	354	349	291	216	193	1	318	336	250	218	201.
4	144	153	280	212	208	332	178	143	125	93	28	307	217	202	185	210	234	213	206	170	302	306	242	250	211.
5	309	311	318	306	28	275	192	242	302	305	331	340	331	338	340	344	332	349	357	40	288	290	170	176	316.
6	282	141	325	74	141	121	283	219	187	284	322	13	42	14	61	173	173	181	193	204	199	190	178	199	187.
7	199	177	188	188	155	177	197	170	183	149	217	217	216	217	213	190	191	198	199	189	185	182	203	200	192.
8	194	196	199	199	186	201	199	196	193	179	185	195	205	196	206	200	188	166	177	187	202	192	185	188	192.
9	190	205	187	184	191	190	188	159	154	194	202	221	241	234	222	240	236	276	316	313	330	313	322	338	227.
10	342	332	324	316	324	324	320	313	267	287	310	325	273	360	344	346	8	34	86	159	139	275	87	112	332.
11	95	103	295	204	55	223	215	54	143	200	324	293	296	293	261	183	311	350	268	279	201	111	121	113	234.
12	105	282	244	100	54	92	213	213	125	214	119	324	307	318	319	308	294	302	285	214	128	181	233	155	236.
13	146	204	346	133	149	152	149	161	174	182	198	203	221	219	214	218	182	173	178	188	189	219	210	188	186.
14	202	202	161	152	215	202	93	228	16	120	41	9	335	314	347	352	10	42	277	143	126	354	58	303	25.
15	241	196	188	131	182	93	260	287	314	203	338	308	320	355	351	326	314	328	38	216	145	53	97	111	297.
16	229	147	201	74	133	58	345	261	105	97	62	35	3	358	349	343	349	270	302	269	47	32	13	307	10.
17	250	243	19	5	86	115	288	79	80	336	31	314	315	303	309	314	268	296	109	9	16	302	75	158	345.
18	197	192	185	168	183	161	157	148	116	77	200	218	219	213	220	290	328	214	203	209	187	190	319	275	199.
19	27	101	119	218	256	250	248	23	65	330	295	297	301	338	6	13	15	12	243	346	12	313	290	275	327.
20	202	159	302	89	134	256	321	344	174	114	52	347	299	23	13	340	300	275	248	227	165	143	126	156	240.
21	140	163	135	131	168	198	101	156	134	181	206	209	216	203	229	223	231	220	233	79	82	202	273	241	185.
22	111	120	125	139	194	23	48	337	153	121	98	61	353		343	331	47	340	284	137	105	170	182	183	99.
23	212	155	165	182	174	188	169	171	176	200	197	207	198	222	219	212	195	190	212	214	210	207	201	205	195.
24	208	207	211	212	234	216	281	321	270	291	304	339	323	349	2	359	2	1	312	288	331	28	98	163	299.
25	239	238	185	184	181	203	100	193	187	184	221	61	41	80	205	217	204	208	194	194	188	193	160	177	187.
26	196	194	183	188	165	151	189	199	195	189	210	222	201	214	204	211	200	194	186	186	157	164	183	145	188.
27	172	175	196	190	196	208	204	207	215	217	231	298	291	292	312	338	334	352	57	13	342	308	277	277	259.
28	243	238	243	241	272	144	144	173	192	175	178	205	342	224			209	208	206	202	189	193	194	166	203.
29	187	198	198	209	204	198	200	202	177	125	196	227	210	190	216	210	206	206	189	176	181	190	193	193	195.
30	194	198	196	179	205	205	204	203	203	217	214	297	291	306	332	318	312	295	248	330	297	316	50	89	251.
31	85	99	333	290	201	192	202	208	205	208	217	215	219	219	223	224	218	219	210	213	204	211	214	204	211.
MEAN	190.	185.	213.	180.	180.	184.	200.	204.	174.	184.	221.	275.	278.	278.	287.	279.	269.	246.	221.	201.	180.	220.	183.	191.	

TOTAL NUMBER OF OBSERVATIONS = 8730 MEAN = 212.

! INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 8 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	27	30	23		11	12	13	12	18	23	28	45	43		55	41	18	13	15	15	13	17	11	24	22.
2	19	14	13	15	10	13	11	9	12	17	49	18	19	18	13	13	13	14	18	11	12	9	13	12	15.
3	12	11	11	12	27	12	14	14	16	16	15	25	41	62	24	55	13	10	17	12	26	14	11	25	20.
4	19	16	21	10	13	21	15	12	12	14	37	42	15	15	16	13	15	14	12	13	30	13	31	22	19.
5	21	16	12	13	17	15	28	18	15	23	12		20	53	36		12	15	11	10	11	11	12	13	17.
6	15	12	18	12	19	16	14	13	13	18	32	37	35	46	40	36	10	11	12	29	37	19	14	14	22.
7	12	12	12	30	25	25	28	25	32	20	19	29	24	16	14	14	12	13	13	32	20	23	15	17	20.
8	33	25	29	39	19	15	23	14	23	24	14	15	15	14	15	14	15	31	36	29	15	12	11	25	21.
9	15	20	11	24	13	13	23	45	31	17	14	18	21	18	15	15	14	13	25	13	12	13	13	17	19.
10	29	15	13	13	13	13	13	13	14	14	16	35	34	46	45	46	46	18	10	11	17	15	17	15	20.
11	12	14	12	12	15	14	13	30	18	28	29	17	22	20	45	34	19	16	10	13	27	45	18	17	21.
12	23	13	11	24	21	10	11	16	11	19	31	22	18	26	38	30	11	11	9	19	22	14	14	17	18.
13	15	42	41	12	12	11	13	15	15	19	14	13	17	16	16	16	15	10	12	12	13	14	14	17	17.
14	17	11	14	12	12	21	15	19	17	19	31	63	49	43	33	31	15	14	12	12	11	13	12	11	20.
15	15	25	13	14	25	14	12	15	15	29	32	14	22	38		28	12	11	11	13	24	19	26	17	19.
16	15	27	18	16	25	11	19	20	18	19	31	12	15	19	16	11	12	14	11	13	13	17	11	23	17.
17	30	28	24	25	10	17	28	19	15	38	34	21	23		32	16	10	12	12	16	13	14	18	14	20.
18	28	23	28	23	18	14	14	12	16	17	35	21	23	20	16	15	12	15	11	14	13	11	13	23	18.
19	28	28	18	14	13	12	39	14	18	14	17	15	18	28	27	21	16	16	13	11	14	10	19	13	18.
20	29	14	29	13	18	12	16	14	12	14	22	43	42	37	43	24	13	12	10	12	15	27	15	12	20.
21	13	11	12	13	12	12	12	11	12	20	16	17	20	31	37	20	13	12	30	21	11	16	12	17	17.
22	15	17	14	24	15	21	23	18	15	13	19			64	55	22	14	26	12	18	13	15	19	15	20.
23	14	17	13	14	10	12	11	13	13	28	23	14	15	39	25	27	47	43	16	15	13	14	12	14	20.
24	13	12	14	21	34	29	30	12	12	15	15	17	32	38	29	37	39	29	12	12	22	34	14	14	22.
25	18	17	12	14	14	21	19	16	19	23	48	43	36	51	26	17	12	13	17	25	16	19	19	17	22.
26	17	15	25	14	11	11	12	17	16	42	24	15	20	20	15	13	13	11	15	26	14	11	36	24	18.
27	58	26	16	27	42	16	20	12	15	15	16	20	16	15	28		13	31	23	48	24	14	16	18	23.
28	11	11	13	22	20	11	18	20	18	30	38	46	45	37			13	17	30	29	11	17	20	15	22.
29	12	15	20	13	22	16	19	22	13	16	20	32	31	21	15	14	13	13	16	15	13	13	10	16	17.
30	32	24	15	10	12	32	19	23	15	16	14	25	15	20	36	26	14	12	11	17	10	11	22	28	19.
31	12	12	17	30	26	13	11	15	59	14	18	17	15	15	16	15	15	14	14	28	17	17	29	12	18.
MEAN	20.	19.	18.	18.	18.	16.	18.	18.	18.	21.	25.	25.	25.	29.	27.	23.	16.	16.	16.	19.	17.	17.	17.	18.	

TOTAL NUMBER OF OBSERVATIONS = 8320 MEAN = 19.

! INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 30 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	17	24	12	9	8	12	11	13	11	25	26	37	45	58	46	40	22	11	26	12	9	15	9	15	21.
2	12	11	12	14	9	9	8	13	11	13	33	18	16	15	12	11	11	12	33	10	10	8	8	11	14.
3	10	9	8	11	20	11	11	16	15	16	14	18	48	53	43	24	17	9	13	11	21	13	9	19	17.
4	15	14	22	9	13	15	12	10	11	11	35	42	13	14	13	11	10	11	10	11	22	13	27	17	16.
5	16	13	10	10	14	13	31	13	15	14	10	18	11	11	14	14	9	22	13	8	9	8	9	15	14.
6	15	10	17	11	13	30	12	10	11	14	22	35	36	39	47	33	7	9	8	18	30	16	12	11	19.
7	9	8	8	29	20	23	28	16	27	19	14	22	20	12	11	11	9	9	10	20	17	27	11	12	17.
8	24	21	22	39	23	19	27	16	26	19	12	12	12	11	12	12	11	22	30	24	13	10	9	26	19.
9	13	19	9	22	10	9	17	45	33	13	12	14	16	14	12	11	11	13	19	10	10	9	11	12	16.
10	24	11	10	10	10	9	10	10	10	10	13	36	38		29	23	23	18	9	9	17	13	13	10	15.
11	10	18	11	10	13	13	11	26	16	22	38	13	17	15	39	29	10	14	10	8	20	40	14	17	18.
12	25	10	10	29	22	11	9	19	9	16	24	30	15	17	29	13	10	10	8	18	21	12	13	13	16.
13	13	41	20	11	9	10	9	10	11	17	12	11	13	13	13	14	12	7	7	11	12	15	14	11	14.
14	24	20	10	9	9	14	20	10	15	15	32	28	40	30	36	21	16	13	10	13	12	15	14	10	18.
15	12	18	17	14	13	13	11	9	23	23	20	13	18		56	15	9	10	8	11	18	19	16	16	16.
16	11	18	18	17	24	11	15	16	13	16	15	8	9	15	13	9	10	8	11	10	10	14	10	20	14.
17	22	20	17	14	18	17	17	16	22	27	32	15	16	17	26	12	8	9	10	10	12	10	14	16	17.
18	25	20	34	16	12	10	8	10	13	14	34	17	19	15	14	12	9	11	9	10	10	9	16	14	15.
19	15	21	11	11	17	17	20	15	22	11	13	12	14	29	30	28	12	14	11	11	15	10	17	15	16.
20	14	17	13	10	20	10	18	17	10	10	23	21	35	34	38	19	9	9	9	9	9	19	12	10	16.
21	10	9	10	10	9	9	11	10	9	16	13	13	17	29	29	15	11	9	33	16	7	15	12	13	14.
22	9	14	14	23	12	11	21	19	11	11	15		42		37	19	14	22	12	20	13	16	25	15	17.
23	11	13	10	12	8	9	10	9	10	23	19	13	12	37	19	25	42	32	13	13	11	11	10	10	16.
24	10	11	11	18	32	25	17	9	9	11	11	16	18	24	37		53	32	10	10	13	28	10	8	18.
25	15	20	11	9	11	22	23	14	14	17	41	56	47	44	25	14	9	10	18	17	15	17	16	13	21.
26	19	13	21	14	10	9	10	16	14	35	19	14	15	16	12	12	10	9	11	20	11	9	25	18	15.
27	44	22	13	21	36	13	16	10	12	12	12	16	12	12	21	30	10	16	30	42	14	11	16	15	19.
28	9	8	11	24	21	9	14	15	14	30	43	46	39	25			10	13	22	45	13	15	15	11	20.
29	9	16	15	11	21	26	25	30	15	13	18	24	24	17	13	11	11	11	17	15	11	11	10	15	16.
30	25	19	15	10	10	19	13	19	14	12	12	21	12	14	12	13	11	11	8	18	8	9	9	22	14.
31	10	12	20	36	27	10	9	13	38	12	15	13	12	14	13	12	11	11	11	25	14	14	23	10	17.
MEAN	18.	16.	15.	16.	16.	14.	16.	18.	18.	17.	21.	21.	22.	23.	24.	18.	13.	14.	15.	15.	14.	15.	14.	14.	

TOTAL NUMBER OF OBSERVATIONS = 8416 MEAN = 17.

* INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 100 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	18	17	14	10	9	19	14	10	21	19	20	34	35	52	25	19	16	9	12	10	8	20	9	17	18.
2	15	13	14	16	9	8	14	11	9	11	28	21	15	13	10	9	10	9	30	10	14	10	21	22	14.
3	15	10	10	11	13	17	7	15	26	23	12	16	36	56	28	34	12	9	22	20	23	19	10	20	19.
4	15	30	26	14	31	24	10	9	9	9	21	39	13	13	14	10	11	11	10	9	18	11	20	15	17.
5	21	12	11	12	30	15	28	15	25	20	8	5	6	21	16	16	9	36	24	25	11	8	12	16	17.
6	16	13	13	10	8	11	9	10	9	14	17	49	15	40	28	31	8	8	8	13	16	17	13	11	16.
7	10	8	9	25	26	21	26	31	22	21	14	19	17	12	11	10	9	10	10	27	16	30	10	11	17.
8	22	28	15	30	45	44	47	23	39	16	11	11	11	11	11	12	12	23	28	28	14	9	9	20	21.
9	13	25	8	19	9	10	15	46	37	13	11	13	15	14	10	11	11	19	10	10	12	10	10	11	15.
10	27	10	10	10	11	11	10	9	11	10	11	45		19	32	30	29	9	13	14	33	19	9	14	17.
11	16	14	10	15	27	11	10	14	35	27		12	14	15	38	41	12	15	10	10	19	29	11	25	19.
12	39	10	13	12	27	19	12	10	11	28	20	17	11	16	30	30	9	12	12	13	10	16	20	14	17.
13	9	31	17	11	9	9	9	10	13	14	11	11	13	12	12	14	11	9	11	14	16	30	34	10	15.
14	23	45	18	11	9	13	10	24	19	13	30	53	20	21	33	49	13	26	12	9	17	21	11	14	21.
15	10	21	26	9	18	28	9	13	15	29	24	11	20		28	13	10	13	22	23	13	23	18	20	18.
16	14	19	14	28	22	26	13	19	10	15	12	10	8	11	10	5	12	8	12	12	8	12	14	24	14.
17	13	13	9	15	17	15	13	12	30	18	30	14	20	15	15	21	9	11	18	20	12	18	11	18	16.
18	34	18	16	9	15	8	7	9	9	11	42	15	17	14	11	12	13	11	10	11	13	13	19	16	15.
19	24	15	20	11	11	10	17	28	15	12	13	13	13	19	26	10	8	9	12	12	18	13	12	24	16.
20	6	12	20	10	27	10	14	14	12	10	16	13	26	34	30	18	10	9	10	18	10	22	12	8	15.
21	9	11	10	11	11	16	15	10	10	16	12	12	15	20	25	12	9	7	26	15	24	20	16	10	15.
22	8	18	34	27	17	11	17	21	9	8	14	41	32		32	12	8	12	13	14	27	25	22	14	19.
23	11	16	9	39	11	17	11	10	16	21	21	11	12	36	16	21	39	26	13	11	11	10	10	9	17.
24	10	10	10	14	30	22	16	11	9	10	10	26	13	26	29	18	48	19	11	9	20	13	11	11	16.
25	15	16	11	11	13	36	22	16	14	28	36	32	32	37	22	11	9	10	16	14	16	16	19	15	20.
26	19	16	28	26	15	11	20	21	36	33	20	12	13	15	11	10	9	9	14	17	11	11	27	16	18.
27	44	20	12	19	27	12	14	10	11	11	11	14	13	10	20	18	11	38		15	22	12	17	15	17.
28	9	8	8	11	25	8	14	25	10	32	30	42	37	23			10	10	32	28	33	31	35	18	22.
29	15	16	10	10	18	28	32	40	25	11	15	24	19	15	11	10	10	9	24	22	14	18	14	20	18.
30	26	13	12	11	9	22	11	12	16	11	11	20	11	11	11	11	10	10	10	13	11	14	6	9	13.
31	9	28	20	26	35	10	10	11	24	11	14	12	11	12	11	11	11	11	10	18	14	12	22	9	15.
MEAN	17.	18.	15.	16.	19.	17.	16.	17.	18.	17.	18.	21.	18.	21.	20.	18.	13.	14.	16.	16.	17.	17.	16.	16.	

TOTAL NUMBER OF OBSERVATIONS = 8391 MEAN = 17.

I INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 200 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	16	17	28	10	10	15	23	11	9	25	25	32	35	52	45	21	12	6	13	10	9	12	25	10	19.
2	15	16	12	12	9	8	26	26	11	11	34	22	13	11	9	9	8	8	32	17	25	25	19	29	17.
3	17	12	17	17	12	30	12	13	19	16	14	15	32	49	33	29	17	8	30	25	23	16	8	16	20.
4	20	14	21	21	26	26	12	10	8	9	29	33	12	11	13	9	9	9	10	9	15	9	19	14	16.
5	21	9	9	14	25	13	23	20	25	14	7	4	5	5	5	4	3	4	4	8	10	10	22	11	12.
6	23	17	33	11	11	10	11	10	10	14	22	40	40	42	27	28	8	8	8	9	10	21	12	8	18.
7	9	7	8	20	41	25	15	35	21	20	15	16	15	12	10	10	7	9	10	27	17	27	9	9	17.
8	17	22	11	17	31	25	16	15	29	16	11	10	11	10	11	11	11	25	30	22	12	9	8	24	17.
9	12	12	8	14	9	10	14	38	47	12	11	13	15	12	10	9	10	20	9	10	19	11	8	11	15.
10	36	11	11	10	10	10	11	11	12	11	11	35		23		24	15	6	10	11	23	20	20	10	15.
11	21	9	17	12	15	14	9	16	20	33	45	14	14	16	33	37	13	8	9	11	23	24	12	10	18.
12	50	16	12	11	11	9	18	19	10	10	46	18	11	14	35	12	7	9	12	11	8	17	17	13	16.
13	12	29	27	14	10	10	9	17	13	12	11	11	12	11	11	13	11	10	9	11	11	41	24	11	15.
14	10	20	38	17	11	10	23	19	23	13	22		42	21	38		31	11	13	10	12	17	14	15	20.
15	12	9	17	18	13	16	12	20	17	20	23	11	21		17	13	10	9	8	14	13	18	12	16	15.
16	21	11	17	26	24	23	11	13	15	12	10	10	10	11	10	3	17	9	9	10	14	10	21	20	15.
17	10	18	24	21	17	9	20	10	10	33	20	22	22	15	20	11	11	8	14	17	23	31	10	18	17.
18	14	12	8	9	14	11	8	12	15	18	38	13	16	13	13	12	12	17	11	19	14	16	18	16	15.
19	25	13	13	26	11	11	14	14	9	18	14	12	12	21	20	10	8	22	22	55	39	15	13	10	17.
20	12	17	13	11	14	14	13	12	12	8	18	21	36	39	33	29	9	8	7	20	9	14	11	18	16.
21	13	14	16	24	14	20	17	11	28	17	11	11	13	19	21	11	8	8	25	11	11	14	12	17	16.
22	9	8	14	23	20	43	14	15	10	7	14	33	56		34	8	7	11	10	15	14	22	18	19	18.
23	12	13	19	40	13	21	10	13	19	17	22	11	12	33	14	20	31	24	11	10	9	10	10	10	17.
24	9	8	8	12	20	16	17	27	9	10	10	14	12	22	33	37	29	22	10	9	28	12	10	18	16.
25	11	29	18	12	9	16	12	10	12	17	41	41	27	47	26	10	8	8	11	12	16	13	16	14	18.
26	13	10	19	24	12	12	14	21	24	37	20	10	13	13	11	10	9	7	13	21	15	13	33	20	17.
27	42	22	11	15	19	10	12	10	9	9	11	14	12	10	11	27	9	26		17	21	10	14	13	15.
28	9	9	9	11	14	10	11	13	15	15	39	42	45	19			8	7	14	11	21	36	43	22	19.
29	14	11	10	9	10	16	16	17	22	12	15	25	17	16	12	9	8	8	32	28	18	24	13	18	16.
30	20	10	11	13	8	13	8	9	13	10	9	18	12	10	11	11	9	11	11	10	9	11	13	11	12.
31	8	14	34	36	21	11	10	10	18	11	12	10	10	12	12	11	9	10	9	12	13	11	15	10	14.
MEAN	17.	15.	17.	17.	16.	16.	15.	16.	17.	16.	20.	19.	19.	19.	19.	15.	12.	12.	14.	16.	16.	18.	16.	15.	

TOTAL NUMBER OF OBSERVATIONS = 8397 MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 30 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	19	21	13	10	9	11	9	12	13	15	24	37	30	68	38	26	15	11	21	12	9	13	8	15	19.
2	10	11	12	15	10	9	9	13	11	13	34	19	17	14	11	11	11	11	29	9	10	8	9	12	14.
3	10	9	8	10	18	12	11	17	15	16	12	19	42	52	33	18	15	8	14	12	31	12	9	18	18.
4	14	15	23	10	14	15	12	10	11	12	19	32	13	13	14	11	11	11	10	11	15	16	28	18	15.
5	22	14	10	11	13	22	26	15	23	21	8	7	8	50	46	15	10	21	10	10	9	8	10	15	16.
6	13	10	14	9	13	17	11	11	9	12	24	31	42	37	42	26	9	8	8	22	29	15	12	11	18.
7	10	9	8	24	16	23	29	16	27	19	10	5	27	13	11	12	9	9	11	19	17	24	11	12	16.
8	24	21	26	38	23	20	34	17	27	20	11	13	12	12	12	11	12	22	34	25	13	10	9	25	20.
9	12	28	10	22	11	11	18	45	23	14	13	14	17	14	12	12	10	25	19	15	16	10	26		18.
10	15	29	16	9	19	10	11	10	11	11	12	31	50		12	17	13	18	11	10	31	22	10	11	17.
11	11	21	11	11	13	13	11	25	13	22	15	11	22	25	40	29	13	13	9	10	20	38	15	21	18.
12	29	11	11	10	17	11	9	16	12	12	22	28	14	23	57	17	11	11	10	23	14	14	14	13	16.
13	15	26	17	12	9	11	10	10	11	18	12	12	15	12	14	13	13	9	8	9	11	14	17	11	13.
14	16	11	6	6	10	18	13	10	13	8	27	36	22	36	40	12	9	12	10	13	11	18	22	13	16.
15	9	19	15	12	16	19	12	8	12	12		29	14		24	29	11	9	10	13	16	17	19	12	15.
16	12	21	13	16	14	11	12	18	11	15	9	8	9	14	11	4	8	9	12	9	8	15	10	12	12.
17	15	15	10	16	14	15	25	11	14	24	24		30		26	14	8	10	8	10	13	13	12	16	16.
18	28	22	20	17	13	11	8	9	10	8	35	17	19	15	13	12	9	13	9	10	10	10	13	25	15.
19	13	15	13	10	15	15	12	14	13	10	12	12	14	25	37	20	15	17	11	11	16	10	17	9	15.
20	8	8	12	11	13	10	8	14	7	5	15	20	26	42	25	19	9	10	9	12	9	19	8	9	13.
21	9	9	10	11	10	8	10	9	7	15	13	13	18	30	38	16	10	9	35	17	9	17	13	8	15.
22	10	17	17	28	13	12	29	14	11	10	15	29	36	19	18	17		14	15	13	11	12	16	17	17.
23	12	16	10	15	10	10	11	9	11	22	22	13	13	43	19	25	52	36	13	13	11	11	11	9	17.
24	10	11	11	18	27	25	16	9	8	12	11	15	25	21	32	29	32	38	15	10	14	19	12	9	18.
25	10	25	11	11	10	21	16	15	15	15	38	46	37	37	27	14	10	10	15	19	16	18	17	14	20.
26	20	14	22	15	11	9	11	17	15	39	20	13	15	17	13	12	11	9	12	19	12	10	28	17	16.
27	45	21	12	21	38	14	16	10	11	13	12	16	13	12	22	36	10	16	32	30	11	12	15	17	19.
28	8	7	11	16	15	9	17	15	14	24	43	36	45	25			10	13	25	42	13	15	15	11	20.
29	9	15	14	11	21	27	25	31	15	14	17	31	25	18	13	11	10	10	17	16	11	11	10	15	17.
30	26	20	15	10	11	20	12	21	14	13	12	20		22	52	26	18		10	13	8	10	15	22	18.
31	10	13	18	21	27	10	9	13	42	12	14	13	12	13	12	12	11	10	11	24	14	14	24	11	16.
MEAN	18.	17.	14.	15.	16.	15.	15.	15.	15.	16.	19.	20.	23.	25.	25.	17.	13.	14.	15.	16.	15.	15.	15.	15.	

TOTAL NUMBER OF OBSERVATIONS = 8392 MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 100 FEET
TRAILER NO, = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	20	23	14	10	11	14	20	11	23	20	23	30	55	30	41	31	18	8	12	10	8	16	8	16	19.
2	15	12	14	16	8	8	13	11	9	11	27	21	14	12	11	10	10	10	15	11	14	8	24	23	14.
3	14	10	9	11	13	17	8	14	22	23	11	16	35	54	23	15	8	8	21	18	29	22	10	18	18.
4	15	18	16	13	24	26	11	9	8	9	23	36	12	12	13	11	10	11	10	11	14	10	18	16	15.
5	18	12	10	12	21	21	28	15	14	12	10	10	10	10	11	10	9	12	11	18	12	10	12	12	14.
6	16	14	13	10	9	10	10	9	8	13	20	16	34	35	32	20	7	7	9	13	15	17	14	10	15.
7	10	8	10	22	24	21	27	29	21	20	14	17	17	12	11	10	9	10	12	25	18	29	18	13	17.
8	23	34	21	40	50	39	42	24	35	16	11	11	12	11	12	12	12	22	27	23	14	8	8	24	22.
9	13	27	9	19	9	9	14	47	44	13	12	12	15	13	10	11	10	12	11	9	11	9	11	10	15.
10	10	10	11	11	10	10	11	10	11	9	10	16	16	46	32	11	9	7	10	13	23	23	11	15	14.
11	20	15	11	13	16	11	11	11	23	21	29	11	13	16	33	33	17	10	9	10	21	30	12	27	18.
12	34	10	12	11	20	14	10	9	12	18	31	12	12	13	14	11	8	12	12	11	8	17	15	12	15.
13	9	18	13	10	8	6	9	9	12	13	11	10	12	11	11	13	11	9	10	14	15	24	20	10	13.
14	22	42	17	11	10	12	14	19	16	12	25	18	24	18	23	12	17	19	12	9	12	11	10	13	17.
15	10	21	18	10	19	27	10	11	8	28	13	11	11	18	27	11	10	13	14	11	14	19	17	19	15.
16	15	26	15	20	16	13	16	16	10	14	13	10	8	10	10	9	14	8	13	8	14	10	13	18	14.
17	13	16	10	15	16	13	11	8	6	15	20	12	12	13	14	11	8	12	14	16	13	12	13	20	14.
18	31	15	14	9	14	8	7	8	10	10	37	14	10	14	12	12	11	13	9	10	13	10	18	15	14.
19	27	15	19	11	10	9	17	19	14	12	12	12	11	12	25	18	21	17	11	13	17	13	13	16	15.
20	12	13	16	7	12	9	13	11	9	10	25	44	16	21	46	10	9	9	10	10	13	11	9	8	15.
21	8	12	9	12	10	14	12	9	10	16	11	12	15	24	25	12	9	8	24	13	27	16	15	10	14.
22	8	10	29	28	16	12	12	17	9	8	14		18	14	20	19	10	11	11	12	16	25	15	17	16.
23	12	11	9	38	12	17	11	10	16	21	23	11	13	36	16	20	36	25	12	11	10	10	10	10	17.
24	11	10	10	14	32	21	16	9	8	11	10	19	10	18	39	12	9	21	9	10	14	11	9	10	14.
25	16	12	13	11	12	25	12	11	13	27	39	40	34	36	22	11	9	10	16	15	15	16	18	15	19.
26	19	17	23	26	14	11	18	22	34	36	19	11	13	14	12	10	11	8	14	18	11	12	27	17	18.
27	36	21	13	18	30	12	16	10	10	11	11	15	12	11	10	11	9	16	22	38	10	10	15	14	16.
28	9	8	8	11	21	10	11	15	11	30	35	50	53	22			10	9	30	25	35	33	38	16	22.
29	14	16	9	9	17	27	28	38	19	12	15	23	18	14	12	10	10	9	24	22	13	17	14	17	17.
30	27	11	12	12	8	20	10	11	18	11	10	13	11	12	9	11	11	10	10	13	11	11	13	11	13.
31	8	25	13	24	25	10	9	11	22	12	14	11	11	11	11	10	10	10	10	17	13	12	21	11	14.
MEAN	17.	17.	14.	16.	17.	16.	15.	15.	16.	16.	19.	18.	18.	19.	19.	14.	12.	12.	14.	15.	16.	16.	16.	15.	

TOTAL NUMBER OF OBSERVATIONS = 8537 MEAN = 16.

* INDICATES CALIBRATION DURING THE HOUR

CORPORATION

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 200 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	24	15	15	10	10	11	18	11	9	23	19	27	44	26	38	46	15	8	10	9	7	16	18	12	17.
2	14	12	11	11	8	9	21	14	12	10	31	18	12	11	9	7	9	8	35	14	21	22	16	24	15.
3	15	11	14	15	10	25	12	12	16	14	12	13	29	40	24	21	11	7	27	27	19	16	8	22	18.
4	20	19	23	15	20	21	10	10	7	9	30	36	10	10	12	8	9	9	8	9	15	10	17	12	15.
5	15	9	11	13	22	18	13	23	21	14	11	9	10	9	10	9	9	11	27	16	10	8	14	9	14.
6	18	14	19	10	11	8	10	13	11	14	18	29	23	51	29	22	7	8	8	10	11	21	12	20	17.
7	43	29	10	32	31	20	12	29	20	16	13	13	13	10	9	10	8	8	9	24	16	23	9	8	18.
8	14	20	10	30	23	19	14	14	23	15	10	10	10	9	9	11	11	21	25	20	13	34	42	33	19.
9	11	14	8	15	12	9	12	36	36	10	10	11	13	13	9	9	9	10	10	9	10	11	9	10	13.
10	11	11	9	11	9	10	11	10	12	11	11	15	18	43	15	10	8	6	8	11	23	22	18	10	13.
11	15	17	17	10	11	13	8	14	13	27	33	13	12	14	31	23	14	17	9	10	17	23	10	10	16.
12	30	15	11	8	10	9	13	14	9	9	23	12	11	13	14	10	8	10	11	10	7	15	12	11	13.
13	11	19	34	12	8	10	9	13	11	11	9	11	11	10	10	12	10	9	8	10	10	24	21	10	13.
14	9	17	36	14	11	10	16	19	13	11	19	22	20	19	21	20	9	10	12	9	10	14	13	16	16.
15	12	10	16	10	14	14	10	24	16	16	16	11	10	13	22	12	9	9	18	14	13	10	10	16	14.
16	14	11	14	19	21	33	12	14	12	16	10	9	10	11	10	7	41	9	8	8	11	10	25	18	15.
17	9	10	10	19	16	7	21	9	9	7	13	13	15	15	13	11	12	9	13	18	21	24	9	19	14.
18	11	11	9	9	13	10	7	11	12	19	27	12	20	11	9	12	18	16	9	15	13	12	20	14	14.
19	22	12	13	21	11	12	13	15	9	11	16	11	11	16	26	15	18	21	21	24	13	11	12	9	15.
20	11	9	15	11	9	10	19	27	9	7	18	33	19	20	39	12	10	8	9	12	9	12	10	15	14.
21	11	12	14	24	12	20	12	11	24	16	9	10	12	16	18	10	8	8	18	11	11	16	12	11	14.
22	8	7	15	18	16	26	14	17	10	7	12	28	12	13	13	24	8	12	12	12	11	13	14	18	14.
23	11	12	16	31	11	14	9	12	17	16	20	15	19	24	13	17	32	21	14	23	6	9	10	9	16.
24	9	9	9	10	22	15	15	12	9	10	10	19	11	11		11	9	9	10	9	11	12	11	15	12.
25	10	25	13	11	7	15	12	10	12	23	27	43	36	38	21	9	8	8	11	11	14	11	15	14	17.
26	12	10	16	21	11	12	13	16	21	28	18	11	12	12	10	9	9	8	11	17	13	11	30	19	15.
27	30	20	11	14	16	10	12	9	9	9	10	14	11	10	10	10	9	28	26	37	10	10	13	13	14.
28	9	8	9	9	10	10	9	11	12	12	41	33	36	17			8	7	14	11	17	30	31	19	16.
29	13	11	9	9	9	14	14	14	19	10	14	19	15	15	11	9	9	8	23	25	17	21	11	15	14.
30	18	9	11	12	8	12	9	9	11	9	9	17	11	10	10	10	10	10	10	10	9	12	9	9	11.
31	7	11	29	35	20	10	10	11	15	10	13	9	11	11	11	10	10	10	9	13	11	10	20	8	13.
MEAN	15.	14.	15.	16.	14.	14.	13.	15.	14.	14.	17.	18.	16.	17.	16.	14.	12.	11.	15.	15.	13.	16.	16.	15.	

TOTAL NUMBER OF OBSERVATIONS = 8510 MEAN = 15.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	83	78	78	83	84	85	85	85	83	78	73	65	57	56	54	52	52	57	59	60	55	55	53	53	68.
2	52	54	54	54	55	54	54	55	53	48	43	40	38	38	38	38	40	43	46	47	47	48	49	50	48.
3	50	49	49	49	49	49	49	49	49	48	45	42	40	38	35	35	37	45	48	49	48	49	49	49	46.
4	51	53	54	55	55	56	53	53	52	48	44	41	40	40	40	39	40	43	52	50	51	53	56	56	49.
5	58	59	59	57	61	75	86	88	89	88	89	87	83	78	76	75	77	81	84	87	87	87	88	86	79.
6	87	86	86	85	86	87	88	88	88	87	83	76	71	66	61	60	62	67	69	70	68	65	67	65	76.
7	63	64	64	63	64	63	64	68	63	60	57	56	54	53	51	52	54	55	56	56	56	57	57	58	59.
8	59	61	59	59	62	62	62	64	60	53	51	48	47	47	47	48	50	52	52	55	55	52	50	49	55.
9	48	48	51	51	49	49	48	49	48	43	38	37	35	32	32	33	34	37	46	59	68	72	76	86	49.
10	87	86	88	87	88	86	86	86	85	82	82	79	76	71	66	62	61	64	72	74	75	77	77	74	79.
11	73	70	70	66	66	67	67	66	69	63	62	54	50	47	45	44	45	50	57	59	59	61	62	62	60.
12	64	67	65	65	65	68	68	66	65	61	55	48	44	42	40	40	42	48	53	52	53	55	56	53	56.
13	52	53	54	52	52	51	49	50	48	43	38	36	36	35	34	35	37	40	43	45	45	46	46	47	45.
14	50	51	50	50	49	49	51	54	53	49	43	39	36	34	33	33	34	37	42	42	45	45	46	48	45.
15	50	50	52	53	53	53	54	55	53	48	45	41	39	37	36	36	38	41	44	46	46	48	49	49	47.
16	47	43	42	43	43	44	48	47	43	41	39	36	34	30	29	32	33	36	37	38	38	40	42	42	40.
17	43	43	42	44	44	43	45	44	42	41	38	36	34	33	32	32	33	35	34	36	37	37	35	35	39.
18	34	34	37	36	37	37	35	36	37	36	33	30	30	30	32	33	34	34	37	39	39	38	39	40	36.
19	40	42	43	47	49	46	45	47	47	47	44	44	43	42	41	40	40	44	49	53	58	62	67	66	48.
20	68	69	72	74	75	77	77	77	77	70	59	50	43	38	35	34	35	39	42	41	39	34	31	30	54.
21	31	33	38	40	41	42	42	43	42	39	39	41	41	40	40	36	36	39	41	42	45	48	50	49	41.
22	49	48	49	49	50	50	49	50	48	46	44	38	34	37	37	38	40	42	45	45	47	49	49	49	46.
23	47	45	44	46	47	47	47	46	45	43	39	37	38	38	38	39	40	41	41	41	42	43	43	42	43.
24	42	42	42	43	43	44	48	48	47	47	48	48	48	47	46	45	49	56	64	76	77	77	79	79	54.
25	82	82	82	82	80	77	77	75	71	69	57	51	48	45	44	45	48	51	53	52	52	52	49	52	62.
26	53	53	52	54	55	54	55	56	55	50	47	45	44	44	43	44	46	49	52	54	54	55	53	53	51.
27	53	52	51	51	50	50	49	48	48	46	44	43	41	40	38	42	44	45	47	50	52	53	55	56	48.
28	59	62	64	64	63	64	65	65	63	55	49	42	39	39			43	45	47	49	50	49	49	48	54.
29	49	49	48	47	47	48	48	48	49	45	39	36	35	35	35	34	36	37	38	38	38	38	38	38	42.
30	39	39	39	39	39	39	39	39	40	39	38	39	40	42	45	47	50	53	54	55	59	62	63	64	46.
31	64	65	66	64	60	61	64	68	69	69	68	67	65	62	62	64	65	67	68	69	71	72	71	72	67.
MEAN	56.	56.	57.	57.	57.	58.	58.	59.	58.	55.	51.	48.	46.	44.	43.	43.	45.	48.	51.	53.	54.	55.	55.	55.	

TOTAL NUMBER OF OBSERVATIONS = 8836 MEAN = 53.

* INDICATES CALIBRATION DURING THE HOUR

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                DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET
                 TRAILER NO. - 23  PERIOD(12/ 1/76 TO 12/31/76)

                                               HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1       90  84  85  88  90  90  91  91  89  85  80  73  65  64  61  58  58  60  63  63  58  57  56  55    74.
  2       54  57  56  57  58  58  57  58  57  54  49  46  45  44  44  44  45  48  50  51  50  51  53  54    52.
  3       54  52  52  52  52  52  53  52  53  52  50  48  46  44  41  40  42  47  51  51  51  51  52  52    50.
  4       53  54  55  57  57  58  56  56  56  54  50  48  46  46  46  45  46  48  56  54  55  57  60  60    53.
  5       61  62  62  62  65  79  92  95  96  96  96  94  90  86  84  83  83  87  89  91  92  93  93  92    85.
  6       93  92  92  90  90  92  94  95  95  94  90  83  79  74  67  68  68  72  74  75  73  72  72  71    82.
  7       70  70  71  70  70  70  70  72  70  68  65                                                    70.
  8
  9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21                                                                   30  38  37  39  39  41  43  43    39.
 22       41  40  42  41  43  43  42  38                                  38  39  40  41  43  43  43    42.
 23       40  38  38  39  40  41  40  39  38                          36  37  37  36  37  38  38  38    39.
 24       38  38  38  39  38  40  45  44  40  35                      45  52  62  72  70  70  68  66    51.
 25       72  73  73  70  68  64  64  63  54  58                      43  46  47  46  46  45  43  45    57.
 26       45  46  47  47  48  48  49  49  49                      40  41  45  47  48  49  48  47  47    47.
 27       47  46  46  46  45  44  43  43  42  40                                                        45.
 28
 29
 30
 31
MEAN      59. 58. 59. 59. 59. 60. 62. 62. 62. 65. 68. 65: 62. 64. 57. 56. 49. 51. 55: 56. 56. 56. 56. 56.

                   TOTAL NUMBER OF OBSERVATIONS =  3057    MEAN  =     58:

            : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	95	88	89	92	94	93	94	93	92	91	86	78	69	67	64	61	61	62	63	63	57	56	55	54	76.
2	54	57	56	56	58	58	57	57	56	55	51	47	46	45	45	45	46	48	51	51	51	51	52	53	52.
3	53	52	51	52	52	53	53	53	53	52	51	49	47	45	42	41	42	47	50	50	50	51	52	53	50.
4	54	54	55	57	57	57	55	56	56	55	52	49	47	47	47	47	47	49	58	56	57	59	62	62	54.
5	62	63	64	65	68	83	97	99	100	100	100	99	97	92	89	88	88	91	94	95	97	99	97	96	89.
6	98	97	96	94	94	96	99	100	100	100	97	90	85	79	75	73	72	73	75	76	76	75	75	74	87.
7	73	73	73	73	73	73	73	74	72	70	68	66	64	62	61	60	61	63	64	65	65	65	65	66	68.
8	67	67	66	66	67	67	68	68	66	62	59	57	56	56	55	56	57	59	59	61	60	58	56	55	62.
9	54	55	56	58	56	56	56	57	56	51	47	45	43	40	39	40	41	43	51	66	75	81	86	99	57.
10	99	99	100	100	100	99	98	98	98	97	95	93	90	85	79	74	72	72	73	75	79	82	83	78	89.
11	75	70	72	70	67	71	72	71	74	73	72	66	62	58	55	53	53	54	60	63	63	64	66	64	66.
12	65	69	70	69	68	70	69	70	67	67	64	58	53	51	48	48	49	51	53	55	55	57	58	56	60.
13	54	56	57	55	55	55	55	52	52	50	46	44	44	43	43	43	44	45	48	49	49	49	50	51	50.
14	51	53	53	53	53	52	55	55	56	56	51	47	44	42	40	40	41	42	45	47	48	50	50	52	49.
15	55	53	52	55	55	55	56	58	57	56	53	50	47	46	45	45	45	46	47	48	49	52	51	51	51.
16	49	46	45	46	46	47	49	51	48	46	45	43	40	37	34	37	38	40	41	43	43	44	45	46	44.
17	47	47	47	47	47	46	47	47	46	46	44	42	41	39	38	38	38	40	40	40	40	39	38	38	43.
18	39	39	39	40	39	40	39	40	41	41	39	37	37	37	38	39	39	39	40	41	42	42	42	45	40.
19	46	45	46	49	50	49	49	50	51	53	53	53	52	51	50	48	48	50	56	58	61	65	68	70	53.
20	72	74	76	77	79	79	79	80	79	75	69	61	54	48	44	42	43	44	45	47	44	38	37	36	60.
21	37	39	43	45	45	46	47	47	48	46	42	40	39	39	38	38	40	42	45	46	46	48	49	50	44.
22	48	47	48	48	49	50	50	51	49	48	48	42	41	41	41	41	44	45	46	47	48	49	50	49	47.
23	47	46	45	47	47	47	47	46	45	43	42	41	41	42	42	43	44	45	45	45	45	46	46	46	45.
24	45	46	46	47	46	47	53	52	52	52	53	54	54	54	52	51	54	61	70	81	80	79	77	75	58.
25	78	81	81	79	74	71	71	70	66	65	60	55	52	49	48	49	51	54	55	53	54	53	51	53	62.
26	55	55	55	55	55	56	56	57	56	53	50	49	48	48	47	47	48	51	53	54	54	54	54	54	53.
27	54	54	53	53	52	51	51	51	50	48	46	46	44	42	42	45	46	47	50	53	55	56	56	58	51.
28	59	60	62	63	64	63	63	63	59	55	51	45	43	42			46	48	49	50	49	48	47	47	54.
29	49	48	47	46	47	47	48	48	48	47	43	40	38	38	38	38	39	40	41	40	40	40	40	40	43.
30	41	41	40	41	41	41	42	42	42	42	42	42	45	47	50	53	56	59	60	61	62	64	66	67	50.
31	64	63	64	61	60	61	66	72	75	76	75	74	73	70	69	70	72	74	75	75	77	78	77	78	71.
MEAN	60.	60.	60.	60.	60.	61.	62.	62.	62.	61.	58.	55.	53.	51.	50.	50.	51.	53.	55.	57.	58.	58.	59.	59.	

TOTAL NUMBER OF OBSERVATIONS = 8844 MEAN = 57.

* INDICATES CALIBRATION DURING THE HOUR

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                 DIURNAL VARAITON OF RELATIVE HUMIDITY AT 200 FEET
                  TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                            HOUR
        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

 1     94   86   86   88   89   88   89   90   88   87   82   73   65   64   60   57   58   58   57   58   50   49   47   47    72.
 2     48   50   49   50   51   51   51   50   49   48   46   44   43   43   42   42   43   44   47   47   47   48   48   49    47.
 3     49   48   48   48   48   48   49   49   48   48   47   46   44   43   40   39   40   44   46   46   47   47   49   49    47.
 4     50   50   50   51   52   52   51   51   51   51   49   46   44   45   45   44   44   47   57   54   54   57   61   59    51.
 5     58   59   59   61   67   84   96   99  100  100  100   99   96   90   87   86   85   87   90   91   93   95   95   91    86.
 6     93   91   90   89   90   91   97   99   98   98   94   87   82   75   70   68   67   67   67   68   69   69   70   68    82.
 7     67   67   67   67   68   67   67   68   66   65   62   61   59   58   56   56   56   58   59   61   60   61   60   61    63.
 8     62   63   61   61   62   62   63   62   61   58   55   53   52   52   52   53   54   56   56   58   57   54   51   51    57.
 9     50   50   52   53   52   52   51   52   51   46   42   40   39   36   35   37   38   40   50   65   74   80   87   99    53.
10     97   95   96   97   98   98   95   95   95   95   95   92   88   82   76   70   67   67   69   71   74   76   75   68    85.
11     65   60   60   60   58   60   63   62   68   66   67   61   57   54   51   49   49   50   56   58   58   58   60   58    59.
12     58   62   64   63   61   63   61   62   61   60   58   54   49   47   45   44   46   47   49   50   51   51   51   50    55.
13     49   51   52   50   49   49   48   47   46   45   42   41   40   40   40   40   41   42   44   44   45   45   46   47    45.
14     46   48   48   46   48   48   50   49   51   50   47   43   41   39   37   37   38   39   42   44   43   44   44   46    45.
15     49   47   45   50   49   49   51   52   52   50   49   46   44   42   42   42   42   42   43   44   45   46   45   45    47.
16     42   40   39   40   37   41   43   45   41   39   40   39   37   34   32   33   36   37   38   40   40   40   40   41    39.
17     42   43   43   42   42   41   41   41   40   39   38   38   38   37   36   36   36   37   38   38   37   35   34   34    39.
18     34   36   35   35   35   35   35   36   37   37   36   34   34   34   36   37   36   36   38   39   39   39   39   40    37.
19     41   40   40   42   44   44   44   45   45   48   49   50   49   49   47   45   45   47   53   55   58   62   64   67    49.
20     69   70   73   73   73   74   74   74   73   69   65   57   50   45   41   39   40   41   41   43   39   33   32   31    55.
21     32   35   40   41   41   42   42   43   44   42   39   37   37   36   36   36   37   40   42   43   43   44   45   45    40.
22     44   43   43   42   43   44   44   45   43   42   43   39   39   38   38   39   42   43   43   44   45   46   46   44    43.
23     43   42   42   42   43   43   42   42   41   39   39   38   38   39   39   41   42   42   42   42   42   43   43   43    42.
24     43   43   43   44   43   46   51   49   49   49   51   52   53   52   50   49   49   57   68   78   78   76   74   73    55.
25     74   75   76   75   68   62   53   64   60   59   55   51   49   46   45   46   49   51   52   49   50   49   47   49    57.
26     50   50   51   51   51   52   53   53   52   50   48   47   46   46   46   46   47   50   52   53   52   52   52   52    50.
27     52   52   51   51   50   49   49   48   46   45   44   44   41   39   39   44   44   45   48   51   53   53   53   55    48.
28     56   57   58   60   60   60   60   59   54   50   47   43   40   40             44   45   46   46   45   44   43   43    51.
29     45   44   43   43   43   43   44   43   44   43   39   37   36   36   36   36   36   36                  36              41.
30
31
MEAN  56.  55.  56.  56.  56.  57.  58.  58.  57.  56.  54.  52.  50.  48.  47.  47.  47.  48.  52.  53.  54.  54.  54.  54.

                    TOTAL NUMBER OF OBSERVATIONS =  8200     MEAN  =      53.

            I INDICATES CALIBRATION DURING THE HOUR
```

CORPORATION

DIURNAL VARIATION OF TEMPERATURE AT 8 FEET(DEG F)
TRAILER NO. • 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	23	22	19	17	15	14	9	10	12	17	21	24	28	30	31	31	30	25	23	22	23	21	22	22	22.
2	23	22	22	22	23	24	23	23	26	33	40	43	44	45	45	43	40	35	32	31	32	31	30	28	32.
3	29	29	30	29	30	26	29	30	30	34	37	40	41	43	43	43	38	32	30	29	30	28	29	29	33.
4	27	25	25	23	25	23	27	26	28	33	37	40	42	41	41	40	38	37	36	35	34	32	32	31	33.
5	31	29	27	26	25	23	22	23	25	25	26	27	27	27	26	25	23	20	17	14	12	11	13	12	23.
6	10	12	12	13	14	13	14	14	16	18	19	22	23	24	25	25	23	20	19	19	21	22	21	23	19.
7	25	23	24	24	24	22	22	20	25	28	32	33	35	36	35	35	33	32	33	32	32	31	32	30	29.
8	28	27	28	27	25	25	25	25	29	37	40	41	43	44	44	43	40	38	38	36	36	36	36	34	35.
9	34	33	31	32	33	32	32	31	33	38	41	43	44	45	43	41	38	36	34	30	29	28	28	27	35.
10	26	25	23	22	21	21	19	18	20	21	23	24	26	28	29	28	26	23	17	16	16	16	16	16	22.
11	14	15	13	15	15	14	15	14	17	22	28	29	33	36	38	37	36	30	24	25	25	23	24	22	24.
12	21	19	20	22	19	19	17	20	21	26	30	36	39	41	41	40	38	30	27	28	28	25	25	26	28.
13	28	26	27	28	28	29	29	27	29	37	41	43	44	44	43	43	39	35	31	30	29	30	30	28	34.
14	25	26	28	28	25	27	25	22	24	30	35	39	40	41	42	41	38	33	28	29	25	26	25	22	31.
15	22	22	20	21	21	20	19	19	21	27	30	34	36	38	38	38	35	29	26	24	25	24	23	22	27.
16	22	24	25	23	24	23	19	20	23	33	36	40	44	46	46	43	41	34	32	32	31	29	26	27	31.
17	25	26	26	24	24	24	23	24	25	30	35	39	41	44	46	46	41	37	35	31	30	30	29	27	32.
18	29	29	28	29	26	26	27	28	28	32	38	42	43	44	43	40	37	35	31	30	29	29	26	26	33.
19	25	22	21	15	15	19	19	18	19	20	25	27	30	32	33	32	28	25	23	21	17	15	15	17	23.
20	15	14	13	13	12	10	12	12	13	18	25	27	29	32	33	33	32	26	22	23	24	22	23	23	22.
21	24	23	23	22	22	20	23	20	22	29	34	35	37	38	37	37	32	28	26	24	20	17	17	19	27.
22	19	17	14	15	15	15	15	14	18	22	30	33	34	34	35	33	31	28	25	24	21	21	22	20	24.
23	23	24	21	20	20	20	20	22	22	27	31	34	35	35	36	34	33	31	31	31	30	30	29	29	28.
24	29	29	29	29	28	29	26	22	23	25	25	26	26	27	27	27	25	23	21	19	18	16	14	11	24.
25	9	10	10	9	8	9	9	12	15	18	24	27	28	30	31	31	28	24	23	23	23	24	24	21	20.
26	22	22	22	20	21	21	21	22	24	31	37	39	40	42	41	40	37	33	31	31	29	29	32	31	30.
27	32	31	31	31	31	31	30	29	31	34	38	39	40	38	38	36	33	29	27	26	24	23	20	18	31.
28	17	15	15	17	17	16	16	14	18	24	30	32	34	36			33	26	24	23	22	22	22	23	23.
29	22	22	22	24	20	19	21	18	22	29	35	37	39	40	40	38	33	30	27	27	26	25	24	25	28.
30	26	25	24	24	26	25	25	25	24	29	31	30	27	29	28	27	24	21	20	19	14	14	15	13	24.
31	15	11	13	15	18	21	21	23	23	26	27	28	30	31	31	30	28	27	26	25	24	24	24	24	24.
MEAN	24.	23.	23.	22.	22.	22.	22.	21.	23.	28.	32.	35.	36.	37.	37.	36.	34.	30.	28.	27.	26.	25.	25.	24.	

TOTAL NUMBER OF OBSERVATIONS = 8842 MEAN = 27.

: INDICATES CALIBRATION DURING THE HOUR

```
              DIURNAL VARIATION OF TEMPERATURE AT 30 FEET(DEG F)
                    TRAILER NO, = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                HOUR
            1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1        20  19  18  15  13  13  10  10  11  15  19  24  26  28  29  30  29  27  24  23  24  22  22  23   21.
  2        23  21  22  21  21  22  22  22  24  30  37  41  42  42  43  42  38  34  32  30  32  29  28  27   31.
  3        28  29  29  28  29  27  27  28  28  31  34  37  39  41  41  41  39  33  29  30  30  29  28  28   32.
  4        28  26  25  23  24  22  25  24  26  30  34  38  39  38  38  37  36  35  34  33  33  31  30  30   31.
  5        30  27  25  24  23  20  20  20  22  22  22  23  23  23  22  22  20  18  16  15  13  12  12  11   21.
  6         8  10  10  11  12  11  11  11  13  14  16  19  20  21  23  23  22  19  18  18  19  19  19  20   17.
  7        21  21  21  21  21  21  20  18  22  25  29  31  33  33  34  33  31  30  31  31  30  30  30  29   27.
  8        27  26  27  26  25  25  26  26  28  35  37  39  41  42  42  42  39  38  38  36  35  35  34  34   34.
  9        33  33  31  31  32  32  31  30  32  36  39  40  41  43  41  39  37  35  33  29  28  27  26  24   34.
 10        23  21  20  19  18  18  17  16  16  18  19  21  22  24  25  26  25  23  22  19  17  15  14  16   20.
 11        15  14  11  14  13  12  13  15  15  20  25  26  30  34  36  37  36  32  26  25  25  23  23  23   23.
 12        21  18  20  21  19  17  18  19  20  24  29  33  36  38  40  40  37  34  32  29  30  26  25  27   28.
 13        29  27  27  28  27  28  28  29  29  35  39                                                      30.
 14
 15
 16                                                    42  44  46  42  40  36  34  32  32  30  28  26   36.
 17        25  25  25  24  24  24  22  23  24  28  33  36  39  42  44  44  42  38  36  34  31  30  30  29   32.
 18        28  29  29  28  26  26  27  28  26  30  38  40  41  41  41  38  35  34  33  31  29  29  26  24   32.
 19        24  23  21  16  15  19  19  17  17  15  21  22  26  28  29  29  27  24  22  21  18  16  15  14   21.
 20        13  13  11  11  11  10   9  10   9  14  21  24  26  29  31  32  31  27  24  23  22  21  22  21   20.
 21        22  22  22  21  21  20  21  19  19  26  30  33  34  35  35  35  32  27  25  24  23  21  17  17   25.
 22        19  18  14  15  14  14  14  13  16  20  27  31  33  32  33  32  30  28  25  25  22  22  21  21   23.
 23        23  23  21  20  19  19  19  21  21  26  30  32  32  33  34  32  31  29  30  29  28  28  27  28   27.
 24        28  27  27  27  26  27  24  20  21  21  22  23  23  24  25  24  22  20  18  17  17  16  15  14   22.
 25         8   9   9   9   9   8   8  10  13  16  21  24  26  28  29  29  26  23  22  22  21  22  22  20   19.
 26        20  21  21  20  20  20  20  21  22  29  35  37  38  40  39  39  36  33  31  31  29  29  31  31   29.
 27        31  30  29  29  30  29  28  28  28  31  35  37  37  36  35  34  32  30  27  26  24  23  20  19   30.
 28        18  18  17  17  17  18  16  17  18  23  28  31  33  34          32  27  24  24  22  23  22  22   23.
 29        22  22  22  23  22  21  22  19  21  26  33  36  37  37  39  37  33  29  27  27  26  25  25  25   28.
 30        26  25  25  24  25  24  24  24  24  27  29  27  24  26  25  24  22  19  18  18  16  15  14  13   23.
 31        15  12  12  16  19  22  22  22  22  24  25  26  27  28  28  27  26  25  24  24  23  23  23  22   23.
 MEAN      23. 22. 22. 21. 21. 21. 21. 20. 21. 25. 29. 31. 33. 34. 35. 34. 32. 29. 27. 26. 25. 24. 24. 23.

                              TOTAL NJMBER OF OBSERVATIONS =  7982    MEAN  =      26.

                    : INDICATES CALT3RATION DURING THE HOUR
```

DIURNAL VARIATION OF TEMPERATURE AT 100 FEET(DEG F)
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	20	19	18	15	14	14	13	13	13	14	18	22	25	26	28	29	28	27	26	25	26	24	24	25	22.
2	26	23	25	25	24	25	26	26	26	30	37	40	41	42	42	41	38	35	33	33	33	32	32	30	32.
3	31	31	32	31	30	30	28	29	30	32	34	37	39	40	41	41	39	36	33	33	32	32	30	30	34.
4	30	29	28	26	27	26	27	27	28	30	34	37	38	38	38	37	36	35	34	34	33	32	31	31	32.
5	31	28	26	24	23	21	20	21	22	22	23	23	22	23	22	22	21	19	18	17	16	14	16	14	22.
6	11	12	12	13	14	14	13	13	14	15	16	19	20	21	22	23	23	21	21	20	20	20	20	21	18.
7	22	21	22	22	22	22	21	20	23	26	29	30	32	33	33	33	31	31	31	31	30	31	31	29	26.
8	28	28	28	27	27	27	28	28	30	35	37	39	40	41	42	41	40	38	38	36	36	36	35	34	35.
9	35	33	32	31	33	32	32	30	32	36	38	39	41	42	40	39	37	36	33	30	28	27	26	25	34.
10	23	22	21	19	19	19	18	17	17	18	20	21	23	24	25	26	26	25	23	22	20	18	16	18	21.
11	17	18	14	16	17	15	16	18	17	20	25	26	30	33	35	36	36	33	28	26	26	26	25	26	25.
12	25	22	21	23	22	20	21	21	23	24	29	33	36	37	39	39	37	35	34	32	32	29	28	30	29.
13	32	29	30	31	30	30	29	32	31	35	39	40	40	41	42	41	39	36	33	33	32	32	31	31	34.
14	30	30	30	29	29	29	27	27	25	28	33	36	38	39	40	40	38	36	33	32	31	28	28	25	32.
15	24	27	27	23	25	23	22	21	22	25	27	30	33	35	36	36	35	33	32	31	28	25	27	26	29.
16	27	29	28	28	25	25	25	25	28	32	35	38	41	44	45	42	40	37	35	33	33	31	30	28	33.
17	27	27	28	27	27	27	25	26	27	28	33	36	38	41	43	44	42	39	37	36	34	33	33	31	33.
18	31	31	32	31	31	29	30	30	29	30	35	39	40	41	40	38	36	35	34	32	31	31	29	25	33.
19	25	25	24	19	19	21	21	20	20	17	21	22	25	28	28	29	27	25	23	22	20	18	18	16	23.
20	15	15	14	14	13	13	13	13	14	16	21	24	26	28	30	32	31	28	26	25	25	24	24	25	22.
21	24	23	23	23	22	22	22	21	21	25	29	31	32	33	34	33	31	27	25	24	24	22	19	19	26.
22	21	20	17	18	15	16	16	15	18	20	26	29	31	31	31	31	29	28	25	25	24	22	23	23	24.
23	23	23	22	21	21	21	21	22	23	26	29	30	31	31	32	31	30	29	29	29	28	27	26	27	27.
24	27	27	26	26	26	27	24	20	20	20	21	22	22	22	24	23	21	20	18	17	17	16	15	15	22.
25	11	11	10	11	12	10	10	12	14	16	20	23	24	27	28	27	25	22	22	23	22	22	21	21	19.
26	20	21	21	21	21	21	22	23	24	29	33	35	36	38	38	37	35	33	31	32	30	30	31	31	29.
27	30	29	28	28	29	29	28	27	28	30	33	35	35	34	34	33	31	30	27	26	24	23	21	20	29.
28	20	20	18	18	17	18	18	18	20	23	26	29	31	33			31	27	25	24	24	25	24	23	24.
29	24	24	25	25	23	23	24	21	22	25	32	34	35	37	38	36	33	30	28	28	27	27	27	27	29.
30	27	26	25	25	25	24	24	24	24	26	28	26	23	24	24	22	21	19	18	18	16	15	14	14	23.
31	16	16	15	20	21	22	21	21	22	23	24	25	25	26	26	26	25	24	24	23	22	22	22	22	23.
MEAN	25.	24.	24.	23.	23.	23.	23.	22.	23.	26.	29.	31.	33.	34.	34.	34.	32.	31.	29.	28.	27.	26.	26.	25.	

TOTAL NUMBER OF OBSERVATIONS = 8845 MEAN = 27.

' INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 200 FEET(DEG F)
TRAILER NO. • 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	17	16	15	13	12	12	11	10	11	11	15	19	22	23	25	26	25	25	24	23	25	23	24	24	19.
2	25	23	24	23	23	25	25	25	25	29	35	38	39	39	40	39	37	34	32	31	31	31	30	29	31.
3	30	30	30	29	29	28	28	28	28	30	32	34	36	38	39	36	37	34	31	31	30	30	29	28	32.
4	28	28	27	26	26	26	26	26	27	28	31	34	35	35	35	35	34	33	31	31	31	30	29	28	31.
5	29	27	24	22	21	18	17	19	19	19	20	20	19	20	19	19	18	16	15	14	13	12	13	12	19.
6	9	10	10	11	11	11	10	11	11	11	13	15	16	18	19	20	20	20	20	19	18	17	18	18	15.
7	19	19	19	19	19	19	18	18	20	23	26	28	30	30	31	30	29	28	29	28	28	28	28	27	25.
8	25	25	26	25	25	25	26	26	28	32	34	36	38	39	40	39	38	36	36	34	34	34	33	33	33.
9	32	31	30	30	31	30	30	28	30	34	37	38	39	41	39	37	35	33	31	28	26	25	23	22	32.
10	21	19	18	16	16	16	15	14	14	15	17	18	19	21	22	23	23	22	21	20	19	17	16	17	19.
11	16	16	13	14	16	15	14	16	15	18	22	23	27	31	33	34	33	32	25	24	24	25	24	25	23.
12	25	21	20	21	21	20	21	20	21	23	26	30	33	35	37	37	35	34	32	30	31	29	29	29	28.
13	30	28	28	29	29	30	29	30	29	33	36	37	38	39	39	39	36	34	32	31	31	30	30	29	33.
14	29	28	29	28	28	27	26	27	25	26	31	34	35	37	37	37	36	34	31	30	30	27	27	25	31.
15	23	25	27	22	24	23	20	20	20	23	25	28	30	32	33	34	33	32	30	29	28	26	26	26	27.
16	27	28	28	27	25	26	25	24	28	31	33	36	39	41	43	41	39	35	33	32	31	31	29	28	32.
17	26	26	26	26	25	27	26	26	28	29	31	33	36	39	41	42	40	37	35	34	33	32	33	32	32.
18	31	31	32	30	29	29	29	28	28	29	33	37	38	38	38	36	34	33	32	30	29	29	27	24	32.
19	24	26	25	20	18	19	20	19	18	16	18	19	22	25	26	26	25	23	20	20	18	16	16	14	21.
20	13	13	12	13	12	12	12	12	13	15	17	20	23	26	28	29	28	27	24	22	23	23	23	23	20.
21	23	23	23	22	22	22	21	21	21	24	28	29	30	32	33	32	29	28	24	23	23	21	19	19	25.
22	20	20	18	19	17	17	16	15	18	20	24	27	29	29	29	29	26	26	24	23	23	22	23	23	23.
23	22	22	21	20	21	20	20	22	22	24	27	29	29	30	31	30	28	27	27	27	26	25	25	25	25.
24	26	25	25	25	25	25	23	20	19	18	18	20	20	21	22	21	20	18	16	15	15	14	13	13	20.
25	11	10	9	10	11	10	10	11	12	14	18	21	22	25	26	25	23	21	20	23	21	21	20	20	18.
26	19	20	20	20	20	21	21	22	23	27	32	34	35	37	36	35	33	32	30	30	30	30	29	29	28.
27	28	28	27	27	28	27	26	26	27	29	32	34	35	34	33	31	30	28	26	24	23	22	20	19	28.
28	19	19	18	17	17	17	17	18	19	22	25	28	29	31			29	27	25	24	24	24	23	22	23.
29	23	22	23	23	22	22	22	21	21	24	30	33	34	34	35	34	30	28	26	26	26	26	25	24	27.
30	24	24	24	23	24	23	23	23	23	24	26	24	21	22	22	21	19	17	16	16	15	13	13	12	21.
31	16	17	18	19	20	20	19	19	20	21	22	23	24	25	25	25	23	22	22	21	21	20	21	21	21.
MEAN	23.	23.	23.	22.	22.	22.	21.	21.	22.	24.	27.	29.	30.	32.	32.	32.	30.	29.	27.	26.	26.	25.	24.	24.	

TOTAL NUMBER OF OBSERVATIONS = 8844 MEAN = 26.

: INDICATES CALIBRATION DURING THE HOUR

HOURLY TOTAL SOLAR RADIATION(LANGLEY)
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL
1	0	0	0	0	0	0	0	3	20	33	42	28	39	35	26	13	3	0	0	0	0	0	0	0	242
2	0	0	0	0	0	0	0	1	12	24	32	39	36	35	25	12	2	0	0	0	0	0	0	0	218
3	0	0	0	0	0	0	0	1	5	7	10	19	34	34	24	12	1	0	0	0	0	0	0	0	147
4	0	0	0	0	0	0	0	1	10	21	31	25	22	15	11	3	0	0	0	0	0	0	0	0	139
5	0	0	0	0	0	0	0	1	4	5	5	12	14	14	10	7	1	0	0	0	0	0	0	0	73
6	0	0	0	0	0	0	0	0	3	7	12	17	14	12	10	6	1	0	0	0	0	0	0	0	82
7	0	0	0	0	0	0	0	1	8	13	18	23	33	28	21	6	1	0	0	0	0	0	0	0	152
8	0	0	0	0	0	0	0	1	12	24	34	38	38	33	25	12	2	0	0	0	0	0	0	0	219
9	0	0	0	0	0	0	0	1	10	20	37	50	35	37	23	7	1	0	0	0	0	0	0	0	221
10	0	0	0	0	0	0	0	1	4	10	15	26	26	29	22	13	2	0	0	0	0	0	0	0	148
11	0	0	0	0	0	0	0	2	13	25	35	37	38	33	24	12	2	0	0	0	0	0	0	0	221
12	0	0	0	0	0	0	0	1	11	23	33	38	38	34	25	12	2	0	0	0	0	0	0	0	217
13	0	0	0	0	0	0	0	1	11	23	33	38	38	34	23	14	2	0	0	0	0	0	0	0	217
14	0	0	0	0	0	0	0	0	9	21	31	37	38	31	25	13	1	0	0	0	0	0	0	0	206
15	0	0	0	0	0	0	0	0	9	14	32	38	38	34	25	14	2	0	0	0	0	0	0	0	206
16	0	0	0	0	0	0	0	0	9	23	25	37	39	32	17	5	2	0	0	0	0	0	0	0	189
17	0	0	0	0	0	0	0	1	9	21	32	38	38	34	26	14	2	0	0	0	0	0	0	0	215
18	0	0	0	0	0	0	0	1	10	20	30	38	35	34	16	9	2	0	0	0	0	0	0	0	195
19	0	0	0	0	0	0	0	0	9	21	32	38	38	34	25	14	2	0	0	0	0	0	0	0	213
20	0	0	0	0	0	0	0	1	17	31	37	39	38	34	25	14	2	0	0	0	0	0	0	0	238
21	0	0	0	0	0	0	0	0	9	22	32	38	38	34	26	14	2	0	0	0	0	0	0	0	215
22	0	0	0	0	0	0	0	1	9	16	32	38	37	24	20	6	3	0	0	0	0	0	0	0	186
23	0	0	0	0	0	0	0	0	4	10	20	22	21	27	28	8	1	0	0	0	0	0	0	0	141
24	0	0	0	0	0	0	0	0	3	9	15	20	16	21	18	12	2	0	0	0	0	0	0	0	116
25	0	0	0	0	0	0	0	1	13	18	34	37	37	33	25	13	2	0	0	0	0	0	0	0	213
26	0	0	0	0	0	0	0	0	8	20	30	36	37	33	26	14	3	0	0	0	0	0	0	0	207
27	0	0	0	0	0	0	0	0	8	20	23	37	38	35	26	14	2	0	0	0	0	0	0	0	203
28	0	0	0	0	0	0	0	0	9	17	31	37	38	30	3	1	3	0	0	0	0	0	0	0	169
29	0	0	0	0	0	0	0	0	8	21	32	38	38	28	21	13	2	0	0	0	0	0	0	0	201
30	0	0	0	0	0	0	0	0	2	15	14	25	28	31	22	10	3	0	0	0	0	0	0	0	150
31	0	0	0	0	0	0	0	0	2	7	11	15	25	35	18	10	3	0	0	0	0	0	0	0	126
TOTAL/10	0	0	0	0	0	0	0	2	27	56	83	100	102	94	66	33	6	0	0	0	0	0	0	0	

TOTAL NUMBER OF OBSERVATIONS = 8647 TOTAL = 5685.

: INDICATES CALIBRATION DURING THE HOUR

```
                    TEMPERATURE CHANGE FROM 30' TO 100' (DEG F*10)
                     TRAILER NO. - 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

  1      -2    0    0    1    2    5   22   25   13   -6                                                                           6
  2
  3
  4
  5
  6
  7
  8
  9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27                                                                  -9   -4    0    3    5    0    6    4    9   12            3
 28      16   27   19   12    7   13   24   20   21    3   -5   -7   -6   -9             -2    9   10   11   30   26   22   19           12
 29      21   23   23   14   16   20   13   24   13   -2   -8   -8  -10   -8   -7   -6   -2    1    7    9   10   17   13    8            7
 30       7    7    9    8    2    3    2    1    3   -3   -5   -7   -7   -8   -8   -5   -3    0    1    0    3    1    3    9            0
 31      17   36   30   44   17    7    8    0    0   -3   -5   -5   -7   -9   -7   -5   -3   -1    0    0   -1    0    0    0            4
MEAN     12   18   16   16    9   10   13   15   10   -3   -7   -8   -9  -10   -9   -6   -3    2    5    4   10   10   10   10

                 TOTAL NUMBER OF OBSERVATIONS =  1352     MEAN  =       6.

     : INDICATES CALIBRATION DURING THE HOUR
```

```
                    TEMPERATURE CHANGE FROM 30' TO 200' (DEG F*10)
                      TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                          HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
"DAY

  1                                         -25 -26 -25 -26 -25 -23 -20 - 4  10  11  18  21  28  15    -5
  2     14  25  15  20  22  24  26  30  16 -10 -22 -25 -27 -26 -25 -22 -13 - 1   2  10   4  17  19  22     4
  3     22  12  10  12   1   8 .14   1   2 - 3 -13 -22 -24 -25 -23 -20 -11  12  20  16   6   7   8   2     0
  4      5  24  25  30  19  44   8  19   8 -16 -22 -24 -24 -22 -22 -19 -16 -15 -16 -12 -10 - 9 -10 - 6    -3
  5    - 3   1 - 7 -11 -13 -18 -12 - 9 -19 -21 -23 -24 -25 -25 -24 -23 -15 - 7 - 7 - 4   0   5   3  17   -12
  6     15   9   5   1 - 6   6 - 1   0 -10 -22 -23 -26 -26 -25 -26 -24 -16   9  17  15 - 1 -11 - 5 -13    -7
  7    -16 -13 - 8 -14 -13 -10 - 9   1 - 8 -17 -23 -23 -25 -24 -25 -21 -15 -14 -16 -17 -16 -12 -12 - 9   -16
  8    - 6 - 2 - 3 - 2   5   5   1   7   1 -23 -25 -24 -24 -24 -22 -22 -15 -13 -12 - 8 - 9 - 8 - 3 - 7   -11
  9    - 5 -11 - 2 - 7 -11 -10 - 8 -11 -13 -19 -16 -23 -19 -13 -14 -17 -14 -15 -15 -11 - 9 - 8 -17 -18   -14
 10    -19 -17 -18 -20 -18 -14 -12 -12 -17 -22 -23 -23 -24 -25 -24 -23 -17 - 6   0   4  14  25  13  18   -12
 11     17  22  20   9  27  16  15  11   4 -15 -21 -21 -24 -24 -24 -23 -16 - 3 - 3 - 2 - 3  20  17  26     1
 12     33  25   3   6  23  26  33  15   6 - 1 -18 -25 -25 -24 -23 -21 -14   1   2  13  11  36  34  19     5
 13     10  14  12   9  21  24  18  10   5 -13 -24 -24 -25 -23 -24 -23 -16 - 8   7  13  11   2   1  14    -1
 14     18   4  14  17  14   5   6  29  17 - 6 -21 -24 -20 -24 -24 -21 -17 - 4 - 1   0  20  12  10  23     1
 15      5  20  43  12  14  19  13   9   1 -12 -15 -20 -27 -26 -25 -23 -17 - 1 - 5   9  26  24  29  32     3
 16     40  23  27  20  30  36  39  13  27   6 -12 -14 -21 -24 -22 - 7 - 9   0 - 2 - 5 - 3  10  13  12     8
 17      4   8   4  19  17  28  36  26  32  13 - 9 -20 -23 -23 -22 -19 - 6 - 3 - 4   0  23  24  28  30     6
 18     23  20  31  22  32  30  25  10  20 - 4 -19 -26 -26 -26 -23 -18 - 8 - 7   0 - 2   2   1  13   7     3
 19      0  31  39  41  31   4   9  24  17  11 -24 -26 -27 -27 -26 -23 -15 - 9 -10   0   3   1   9 - 1     1
 20      2   3  10  16  20  22  26  23  36  12 -24 -24 -26 -25 -23 -22 -17   0   8   1  12  23  14  23     4
 21     15  11   7   9   9  16   4  16  23 -14 -25 -27 -26 -25 -24 -23 -15   0 - 5 - 4   2  11  24  15    -1
 22      8  21  43  36  37  31  25  21  16   8 -20 -26 -27 -25 -24 -19 -15 - 7 - 3 - 4  12   5  22  27     5
 23    - 1 - 1   4   7  20  15  15  11  18 - 5 -20 -22 -23 -24 -24 -21 -17 -15 -16 -16 -13 -15 -13 -15    -8
 24    -15 -12 -12 -12 - 8 -11 - 6   2 -14 -20 -24 -24 -25 -26 -25 -24 -20 -15 -18 -12 -10 -10 - 8 - 4   -16
 25     35  16  13   7  31  22  28   5   0 - 7 -26 -26 -25 -25 -26 -25 -19 -10 - 4  11 - 2 - 9 - 8   9    -2
 26      4   0 - 2   5   1  10  13   8   9 -19 -24 -27 -26 -27 -26 -22 -16 - 6 - 5 - 2  11   6 - 8 - 5    -7
 27    -14 -13 -14 -13 -12 -14 -14 -11 -10 -18 -25 -23 - 9 - 6 -16 -23 -14 - 8 - 7 -12 - 3 - 5   1   3   -13
 28      6  15  13   3   1   9  13  14  16 - 7 -23 -26 -25 -27         -19   4   5   6  23  15  11   8     1
 29     18  10  12   3  11  11   2  20   3 -18 -27 -27 -27 -26 -26 -24 -18 -10 - 2   0   0   4   3 - 2    -5
 30    - 5 - 4   0 - 1 - 7 - 6 - 9 - 9 - 8 -21 -25 -25 -27 -28 -29 -25 -22 -19 -14 -16 -11 -12 - 9   3   -15
 31     15  45  59  33   5 - 8 -16 -16 -17 -23 -25 -25 -24 -20 -18 -21 -21 -20 -17 -18 -19 -18 -14 -11    -9
MEAN      7   9  12   9  11  10   9   9   5 -11 -23 -26 -26 -25 -25 -23 -17  -8  -5  -2   2   5   6   7

                 TOTAL NUMBER OF OBSERVATIONS =  6700     MEAN  =       -4.

        : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF BAROMETRIC PRESSURE
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	793	794	795	796	796	797	797	797	798	799	800	799	799	799	799	799	799	799	799	800	800	800	800	800	798
2	800	791	799	797	791	799	799	794	799	790	795	797	790	796	795	795	795	794	794	794	794	794	795	794	797
3	795	794	794	795	795	793	793	793	793	793	793	792	791	791	793	790	790	790	790	790	790	790	790	790	792
4	791	790	791	789	789	789	789	785	785	784	787	787	786	785	784	784	784	784	784	783	783	783	783	783	786
5	783	785	785	785	785	784	784	785	785	786	785	786	785	785	786	787	787	788	786	788	788	789	789	789	786
6	789	789	789	788	789	789	790	790	790	791	792	792	792	791	791	792	791	791	791	791	791	790	791	791	791
7	791	791	791	791	791	791	791	791	791	792	792	792	792	791	791	791	791	791	791	791	791	791	792	792	791
8	791	791	792	792	791	791	791	791	792	792	792	791	791	786	785	786	787	787	787	786	786	785	785	785	789
9	785	785	784	784	783	783	783	784	784	784	783	783	783	783	782	782	783	784	784	785	786	786	787	788	784
10	793	793	791	794	791	791	791	792	793	793	793	794	793	793	793	793	794	794	794	794	794	794	795	795	793
11	795	795	795	795	795	795	795	795	795	795	796	794	794	793	793	793	793	793	793	793	793	793	794	794	794
12	794	794	794	791	794	795	795	795	796	795	796	796	795	795	795	795	795	795	795	795	795	795	795	795	795
13	795	795	795	795	796	796	796	796	795	795	794	794	793	792	792	792	792	792	792	792	792	792	792	792	794
14	792	792	792	792	792	792	792	793	793	793	793	793	792	792	792	792	792	792	792	792	792	792	792	793	792
15	793	793	793	793	793	794	794	794	795	795	795	796	796	795	795	795	795	796	796	796	796	796	796	797	795
16	795	796	795	796	797	797	797	797	797	797	796	796	795	794	795	795	794	793	793	793	793	793	794	793	795
17	793	793	792	792	791	791	791	791	791	791	791	790	789	788	788	788	788	788	788	788	788	788	788	788	790
18	788	788	788	786	788	788	788	789	790	789	789	789	788	788	788	788	788	789	789	789	789	789	789	790	789
19	793	791	794	791	791	791	791	792	792	793	794	794	793	793	793	793	793	794	794	794	795	795	795	795	793
20	795	795	796	797	797	797	797	797	797	797	797	796	795	794	794	794	794	794	794	794	793	793	793	793	795
21	793	793	793	793	792	792	792	791	791	791	790	789	788	788	788	788	788	788	788	788	789	789	789	789	790
22	789	789	789	789	789	789	789	790	790	790	791	790	790	790	790	790	790	791	791	791	791	791	791	791	790
23	791	791	791	791	790	790	791	793	793	790	789	788	787	787	786	786	785	785	785	785	785	785	785	784	788
24	784	784	783	784	783	782	782	783	783	784	784	783	783	782	782	783	783	784	785	786	787	787	787	788	784
25	795	794	793	793	794	793	791	792	792	793	794	794	793	793	793	793	793	794	795	795	795	795	796	797	793
26	797	797	797	797	797	797	797	797	797	796	795	795	794	793	792	792	792	792	792	791	791	790	789	789	794
27	785	786	783	787	786	786	786	785	786	786	787	786	785	785	786	786	786	787	787	788	788	789	790	790	787
28	790	790	791	791	791	792	792	792	792	793	793	792	791	791			791	791	791	791	791	791	791	790	792
29	791	789	789	788	786	786	786	787	787	787	786	785	784	783	783	782	782	782	782	781	781	781	781	780	785
30	781	780	781	779	779	779	779	779	780	781	780	781	780	780	781	779	780	780	781	781	781	781	781	780	780
31	780	781	781	780	781	780	781	781	781	781	781	780	779	779	779	779	780	780	780	780	781	781	781	781	780
MEAN	791	791	791	791	791	791	791	791	791	791	791	791	790	791	790	790	790	790	790	790	790	790	790	790	

TOTAL NUMBER OF OBSERVATIONS = [illegible] MEAN = 790.

* INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	15	5	5	8	8	4	6	3	2	0	2	2	3	3	3	3	2	5	3	3	8	3	4	1	5.
2	3	5	3	3	3	2	4	1	3	4	2	7	8	9	12	11	11	9	5	4	4	5	4	4	6.
3	5	5	5	5	3	4	4	4	2	2	1	3	3	1	4	4	4	7	4	3	2	3	2	0	4.
4	0	1	1	4	2	2	3	4	4	3	3	5	10	8	7	7	5	8	12	8	4	3	3	4	5.
5	2	2	5	4	2	1	1	1	1	2	5	9	9	12	10	8	7	2	1	1	4	4	2	1	5.
6	1	2	0	0	1	0	0	0	0	0	0	3	4	4	2	1	5	8	7	2	4	9	4	11	3.
7	13	13	9	5	2	2	2	4	4	3	0	0	6	10	12	11	12	10	10	4	4	3	10	8	7.
8	4	4	6	3	3	3	1	3	2	9	14	14	14	14	14	12	8	3	4	3	11	24	25	8	9.
9	10	5	13	9	19	14	8	3	6	13	20	15	14	16	16	14	13	6	5	7	4	4	7	10	11.
10	12	10	7	7	6	5	4	3	3	4	5	4	3	5	6	9	4	1	1	3	2	2	3	2	5.
11	3	2	3	2	2	3	2	0	1	0	2	6	4	3	2	0	1	1	7	4	2	4	3	2	3.
12	3	4	1	0	1	0	5	0	1	0	1	4	5	4	3	5	5	4	4	0	0	3	3	2	3.
13	3	1	1	4	6	4	4	4	4	6	11	14	13	13	11	8	5	6	6	4	4	2	3	5	6.
14	3	2	4	2	1	1	1	4	1	1	1	2	4	3	5	5	4	2	5	1	3	0	0	3	3.
15	3	2	2	4	3	2	3	2	0	0	4	7	9	8	6	4	6	4	3	2	0	0	1	4	4.
16	4	1	2	2	1	1	4	1	3	1	3	4	5	4	4	5	1	6	3	1	0	1	3	1	3.
17	1	0	0	1	0	0	1	0	0	0	1	3	3	3	3	3	3	2	1	2	2	1	1	3	2.
18	0	1	2	4	3	2	6	6	4	1	2	8	7	7	9	6	2	2	5	3	3	2	2	0	4.
19	0	0	3	6	3	0	0	0	1	4	6	7	8	10	10	11	11	5	4	2	2	4	5	0	5.
20	0	0	1	1	1	4	0	0	0	3	2	4	4	2	3	3	3	5	6	1	4	1	3	5	3.
21	4	5	4	4	6	4	3	6	4	4	7	8	7	5	4	4			0	0	2	0	0	0	4.
22	0	0	1	0	0	0	0	0	0	0	0	3	7	8	6	5	3	3	3	1	2	2	1	2	2.
23	2	1	5	3	4	4	4	4	4	4	8	13	13	6	11	7	4	4	13	14	16	14	13	15	8.
24	14	10	10	5	2	2	4	4	6	5	8	5	9	7	7	10	12	9	5	4	1	0	1	3	6.
25	3	0	3	3	3	2	1	2	3	2	2	2	4	2	5	9	10	8	4	4	5	6	6	7	4.
26	4	6	4	4	5	5	5	4	4	3	5	11	8	8	11	13	13	12	5	3	5	5	3	5	7.
27	5	8	10	6	6	12	8	12	13	13	10	12	24	22	15	13	9	5	3	4	4	5	4	3	10.
28	5	6	4	2	1	2	1	2	2	0	2	2	3	5			8	6	2	1	4	4	4	5	4.
29	5	4	4	7	3	1	2	3	4	4	5	4	5	6	9	12	12	14	4	4	4	4	5	4	6.
30	3	4	5	5	11	4	6	5	2	7	9	9	8	9	10	8	8	5	2	0	2	2	0	0	6.
31	3	3	1	1	0	4	5	7	2	7	8	12	15	16	16	10	14	10	10	5	7	8	5	10	8.
MEAN	5.	4.	4.	4.	4.	4.	4.	3.	3.	4.	5.	7.	8.	8.	8.	8.	7.	6.	5.	4.	4.	5.	5.	5.	

TOTAL NUMBER OF OBSERVATIONS = 8620 MEAN = 5.

! INDICATES CALIBRATION DURING THE HOUR

```
CORPORATION

                DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET
                  TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                         HOUR
       1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

 1    17   5   6   9  10   6   4   5   2   0   2   2   4   4   4   4   2   5   3   5   9   2   5   1    5.
 2     1   5   3   2   3   3   1   0   3   5   2   7  10  11  13  13  14  12   6   5   3   4   3   4    6.
 3     4   5   4   5   5   3   6   5   2   3   2   4   3   1   5   4   5  11   3   2   2   1   2   1    4.
 4     0   0   1   2   0   1   5   5   5   4   4   5  12   8   8   9   6   9  14  10   5   4   5   5    6.
 5     2   4   6   5   2   2   2   2   3   4   7  10  11  13  11  10   8   4   2   0   2   3   1   1    5.
 6     2   2   0   1   1   0   1   0   0   0   0   4   5   4   2   1   6  10  10   6   8  11   5  13    4.
 7    15  14  11   6   2   3   4   3   5   3   5   4   7  10  13  12  13  13  12   5   5   5  13  11    9.
 8     6   6  10   5   2   2   2   4   2   9  14  14  14  14  14  11  10   4   5   5  15  29  30  10   10.
 9    13   7  17  12  24  18  12   3   7  14  21  15  14  16  17  14  14   8   6   8   5   5   9  12   13.
10    14  12   8   8   7   6   5   5   3   5   6   4   4   6   7  10   5   3   0   2   1   3   4   2    6.
11     2   2   4   1   1   4   2   0   1   1   2   6   5   4   2   1   2   2   7   4   1   5   5   1    3.
12     1   5   1   0   1   0   3   0   0   0   1   4   6   5   4   5   6   4   4   1   0   2   1   1    3.
13     4   0   0   4   7   5   5   3   5   7  13  15  14  14  13   9   6   7   7   5   5   1   2   6    7.
14     5   1   4   5   3   1   1   2   2   2   1   3   4   3   5   5   4   2   4   1   2   0   0   3    3.
15     3   3   4   4   1   1   3   1   0   0   4   8  10   9   7   5   7   4   0   1   1   3   2   2    4.
16     2   2   3   2   3   1   3   1   3   6   3   3   5   4   4   5   1   6   4   0   0   1   1   2    3.
17     1   0   0   0   0   1   2   0   0   0   1   4   4   4   3   3   4   1   0   0   1   1   3   1    2.
18     0   4   4   6   2   3   6   6   5   2   3  10   8   8  10   7   3   1   6   2   2   1   1   1    5.
19     0   0   1   6   4   2   0   0   2   4   6   8   9  11  11  13  12   7   4   3   3   3   4   0    5.
20     0   0   0   0   0   1   0   0   1   4   3   4   4   3   4   3   4   4   6   0   3   2   3   4    3.
21     5   5   4   4   6   3   3   7   5   4   8   9   8   5   5   7   8   9   2   1   0   1   2   1    5.
22     3   1   0   2   2   1   0   1   1   4   5   4   7   9   6   5   5   4   3   1   0   0   0   2    3.
23     3   2   5   1   4   3   5   5   4   5   8  13  13   6  13   9   5   6  16  18  21  17  15  17    9.
24    17  13  14   9   4   5   7   6   8   5   8   5  10   9   7  11  14  10   7   5   2   2   1   2    8.
25     2   1   1   1   3   1   2   2   4   1   3   3   4   2   6  10  12  11   6   8   7   8   8   9    5.
26     6  10   6   4   6   6   5   4   3   5   6  12   8   9  12  16  15  14   6   5   7   6   4   7    8.
27     5  10  13   9   9  14  10  13  14  14  10  12  24  22  16  14  10   8   3   7   7   7   5   3   11.
28     6   8   7   4   1   2   0   0   4   1   2   3   4   6          10  10   4   3   3   3   3   5    4.
29     5   6   9  11   7   2   4   3   4   5   5   4   6   8  10  13  15  18   5   4   5   4   4   4    7.
30     4   7   7   5  14   7   9   8   2   9  10   9   9  11  11   8   8   6   3   0   1   0   0   0    7.
31     4   0   1   0   0   5   7   9   4   7  10  13  16  19  18  18  16  11  13   7   9  11   8  13   10.
 MEAN  5.  5.  5.  5.  5.  4.  4.  4.  4.  5.  6.  8.  9.  9.  9.  9.  8.  8.  6.  4.  5.  5.  5.  5.

             TOTAL NUMBER OF OBSERVATIONS = 8846    MEAN  =       6.

        : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF BI-VANE WIND SPEED AT 200 FEET
TRAILER NO. = 23 PERIOD(12/ 1/76 TO 12/31/76)

											HOUR													
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	20	6	6	11	13	6	2	3	1	1	1	2	4	3	3	3	1	3	1	3	8	2	1	1	5.
2	1	3	2	1	1	2	1	1	2	5	2	7	9	9	12	13	15	15	6	2	1	1	3	2	5.
3	4	4	2	3	7	2	4	5	3	2	1	3	2	1	5	4	4	12	3	1	1	1	4	2	4.
4	1	1	1	1	1	1	5	5	4	3	2	4	12	8	8	10	7	10	17	12	5	3	5	6	6.
5	2	4	8	6	2	2	3	1	4	5	7	11	11	15	12	10	8	6	2	1	1	2	1	2	6.
6	2	1	1	1	1	1	1	1	1	1	1	3	5	4	2	1	6	11	13	12	12	14	6	17	5.
7	18	17	13	8	1	3	7	3	7	3	4	4	7	10	13	13	16	15	14	6	6	5	16	15	10.
8	9	9	15	10	4	4	6	7	4	11	15	16	16	15	16	13	11	4	5	6	19	34	36	10	13.
9	13	7	20	15	29	22	14	3	7	18	25	17	16	19	19	16	17	9	6	9	5	6	10	12	14.
10	13	12	9	9	7	7	6	5	2	4	5	4	4	6	6	10	5	4	2	3	2	1	2	3	6.
11	0	1	0	0	0	2	2	0	0	0	0	3	2	2	1	0	0	1	6	3	0	2	2	1	2.
12	1	4	1	1	1	3	1	1	1	1	1	3	5	5	3	5	6	4	3	1	1	2	1	1	3.
13	1	0	0	2	6	4	4	0	6	9	13	15	14	14	12	8	6	7	9	6	7	0	2	7	7.
14	11	5	2	3	3	2	1	1	3	2	1	2	4	3	5	6	4	3	3	1	1	1	1	2	3.
15	2	4	6	4	2	2	2	1	1	1	4	8	9	8	6	5	8	5	1	1	1	2	3	2	4.
16	1	2	3	1	1	1	2	1	2	1	3	3	4	4	3	6	2	5	4	1	1	1	1	1	3.
17	2	1	1	1	1	1	1	1	1	1	1	2	2	3	2	2	2	2	1	1	1	1	3	2	2.
18	1	7	9	5	2	0	5	3	2	0	3	9	8	7	10	6	3	1	4	1	1	1	1	1	4.
19	1	2	2	2	2	1	1	1	2	6	5	7	8	10	11	12	12	8	2	1	3	3	5	1	5.
20	1	1	1	1	1	1	1	1	1	2	2	3	3	2	3	2	2	2	3	1	3	1	2	1	2.
21	3	3	1	3	5	1	3	6	1	4	8	8	8	5	5	6	9	12	3	1	1	1	2	1	5.
22	2	2	1	2	1	1	1	1	1	4	5	4	7	9	6	6	5	5	4	1	1	1	1	2	3.
23	3	1	2	1	3	3	5	4	4	5	9	15	14	7	15	9	6	8	21	21	26	21	17	20	11.
24	20	14	16	11	4	6	7	5	7	5	8	5	10	9	7	12	15	12	7	5	3	3	1	1	9.
25	1	1	1	1	4	3	1	2	4	2	2	2	3	2	6	11	15	13	9	11	8	10	11	10	6.
26	8	14	8	4	7	5	4	6	3	6	5	11	7	8	12	17	17	17	7	5	6	8	6	8	9.
27	6	12	14	11	11	20	15	18	20	17	12	13	28	25	17	14	12	8	3	7	10	9	6	3	14.
28	4	6	6	5	1	0	0	0	3	2	2	2	3	6			11	14	9	10	3	2	2	3	5.
29	6	9	11	15	12	7	8	9	5	5	5	4	6	7	9	13	16	22	5	4	5	3	5	4	9.
30	6	10	11	6	18	12	13	12	2	10	10	8	7	10	11	8	8	7	4	1	1	1	1	1	8.
31	1	0	0	0	0	5	7	12	5	7	9	14	17	21	21	20	19	13	15	10	11	14	11	15	11.
MEAN	6.	6.	6.	5.	5.	5.	5.	4.	4.	5.	6.	7.	9.	9.	9.	9.	9.	9.	7.	5.	5.	5.	6.	6.	

TOTAL NUMBER OF OBSERVATIONS = 8844 MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	10	293	293	297	316	299	237	215	110	53	104	134	50	359	27	52	322	213	199	189	186	119	142	145	163.
2	218	136	184	100	138	175	136	140	84	105	17	251	220	215	207	206	202	190	95	105	128	125	106	85	150.
3	107	129	132	111	144	78	96	126	83	77	77	246	303	77	19	13	300	237	113	115	37	201	202	164	109.
4	168	248	137	227	195	235	177	134	136	86	41	261	209	194	174	201	228	194	195	157	307	319	233	275	201.
5	246	275	287	280	239	273	126	182	277	305	340	336	327	326	335	335	318	295	289	218	234	225	190	218	276.
6	272	201	175	147	200	339	263	153	175	297	295	11	4	43	58	190	172	169	173	178	182	182	130	189	186.
7	193	172	173	159	100	137	142	95	169	124	64	51	213	209	209	193	183	190	191	196	164	136	196	184	185.
8	174	144	213	79	91	93	88	118	111	166	181	190	201	193	203	199	177	146	154	161	198	189	181	145	161.
9	168	199	174	151	183	179	187	83	66	182	194	210	229	224	213	232	226	242	304	293	284	278	321		212.
10	341	332	309	304	311	294	283	277	229	279	299	324	337		349	341	23	360	220	221	218	305	105	225	300.
11	229	209	281	117	253	277	141	61	258	305	18	320	322	325	102	162	358	310	268	258	150	142	168	244	256.
12	263	277	173	99	347	271	244	86	250	22	30	359	306	320	360	317	281	244	221	135	138	241	252	177	275.
13	177	206	120	123	135	130	136	168	124	154	193	199	219	216	212	219	170	159	135	115	124	127	130	177	160.
14	148	82	92	93	112	221	15	250	141	118	53	14	8	325	16	10	20	141	249	166	260	234	302	281	59.
15	203	170	70	178	203	270	240	122	16	136		31/	317		350	332	309	253	212	184	118	49	233	234	228.
16	190	171	163	208	80	292	275	150	137	101	41	21	22	20	8	334	303	265	273	238	238	17	272	355	302.
17	3	109	360	268	122	22	349	79	4	38	18	231	328	28	8	328	297	236	229	201	255	195	105	255	337.
18	312	190	174	179	129	106	154	139	110	100	81	214	216	213	219	276	276	208	209	190	196	189	187	296	188.
19	142	67	231	248	234	224	14	209	81	265	304	298	296	334	8	13	12	328	242	266	254	249	222	293	281.
20	351	37	221	157	310	204	107	131	114	109	75	345	308	320	21	332	288	240	226	193	168	208	127	155	181.
21	127	136	128	148	141	108	124	129	98	136	197	198	209	197	229	225	253	236	219	126	236	222	232	102	173.
22	168	225	266	224	229	207	21	288	135	97	94	40	6	5	6	355		345	237	193	260	224	71	233	257.
23	206	202	158	114	133	120	130	136	102	182	205	200	192	202	215	205	175	175	205	208	202	198	188	199	179.
24	201	198	204	216	287	158	277	256	254	272	292	316	327	342	2	355	9	360	308	268	285	58	167	183	279.
25	165	312	133	218	198	215	116	201	146	89	182	42	35	83	198	213	200	204	150	188	150	158	129	148	164.
26	125	169	132	77	102	98	112	112	78	161	203	219	209	225	213	205	191	181	141	127	111	118	117	118	146.
27	146	161	190	173	169	205	203	206	216	217	227	293	292	293	323	343	333	335	274	8	303	276	228	203	244.
28	206	208	206	181	29	181	152	195	148	109	2	215	40	209			202	201	133	96	84	101	64	105	151.
29	113	128	161	185	131	88	122	89	85	89	185	219	198	176	207	205	206	197	92	113	127	112	123	119	143.
30	143	161	148	131	201	179	192	188	125	211	212	299		309	343	321	317		251	312	246	246	221	118	214.
31	147	254	225	95	146	164	186	197	191	198	208	205	209	208	213	212	211	212	202	200	187	202	209	210	197.
MEAN	180.	185.	180.	162.	164.	189.	154.	153.	129.	129.	86.	276.	287.	272.	312.	277.	263.	224.	210.	183.	198.	190.	176.	188.	

TOTAL NUMBER OF OBSERVATIONS = 8628 MEAN = 190.

! INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	296	292	292	297	303	230	207	160	23	72	116	49	291	354	30	289	179	200	135	162	86	115	59	345.
2	181	128	177	136	140	150	127	176	46	81	334	247	221	214	207	206	200	193	109	110	125	125	137	103	155.
3	136	149	136	131	171	107	99	145	141	119	92	219	243	91	333	327	278	209	111	46	329	284	221	184	149.
4	79	247	227	209	251	205	174	131	115	82	35	301	216	201	183	209	233	207	203	165	298	302	237	254	211.
5	269	295	290	286	264	271	157	200	279	297	310	318	310	316	317	318	307	311	319	290	261	241	168	204	282.
6	270	190	301	82	162	162	253	189	185	281	287	323	329	23	66	174	170	172	177	192	191	177	149	189	196.
7	190	167	173	166	102	136	176	106	167	120	207	207	207	208	207	192	183	191	191	192	173	167	195	189	177.
8	168	156	189	189	151	153	155	155	143	167	177	189	199	190	200	196	177	151	162	171	196	185	177	149	173.
9	176	201	178	167	183	181	175	114	85	185	196	213	233	228	217	233	229	267	310	308	304	298	313	321	220.
10	324	316	308	306	308	304	299	296	246	282	302	308	315	339	339	334	359	42	101	177	155	298	79	126	315.
11	195	87	272	133	337	249	176	56	196	253	309	291	293	288	268	176	319	324	259	259	123	98	123	117	244.
12	229	267	247	93	34	66	214	5	88	151	360	307	300	302	306	303	287	272	247	155	97	201	265	129	267.
13	144	216	32	92	132	133	132	157	148	165	192	107	214	213	209	214	173	163	153	151	156	117	123	163	161.
14	186	157	93	119	162	177	304	217	17	83	48	288	315	286	299	326	345	50	251	107	147	1	356	273	331.
15	208	179	223	156	171	187	240	96	19	119	342	309	315	330	333	321	313	292	204	157	79	335	138	172	233.
16	187	160	182	169	168	46	321	105	104	94	31	2	354	351	343	319	281	258	286	228	53	13	292	278	333.
17	293	90	21	296	121	111	296	327	28	190	355	305	301	305	301	300	283	266	176	242	325	212	83	249	297.
18	191	176	176	162	142	140	153	138	108	95	168	210	212	207	214	280	291	206	196	180	189	168	224	316	184.
19	78	56	48	257	249	217	222	10	77	285	278	300	298	333	11	18	10	354	249	289	287	272	251	263	306.
20	10	54	252	52	322	214	326	276	92	106	38	340	298	277	357	321	293	263	236	206	151	156	107	143	308.
21	124	135	126	140	142	112	84	125	100	151	199	200	208	189	220	215	225	209	210	94	164	221	257	99	165.
22	118	121	220	187	213	188	156	263	130	103	86	179	329	331	338	317	56	338	252	121	121	192	66	174	157.
23	201	159	134	97	136	136	142	137	117	179	195	200	191	215	215	204	192	185	206	208	202	198	190	198	178.
24	200	199	204	209	250	194	278	273	261	281	300	322	329	346	346	351	356	337	298	270	293	29	105	154	284.
25	181	328	142	172	175	168	77	178	160	125	188	39	45	73	196	212	199	201	170	181	163	172	141	152	161.
26	170	175	152	117	134	116	147	139	111	168	202	217	195	209	198	206	193	185	160	160	130	134	155	126	162.
27	173	165	187	175	182	199	196	198	208	209	222	291	289	289	302	319	316	325	283	352	312	288	248	232	246.
28	215	217	214	216	309	135	115	143	167	143	114	241	346	209			202	197	177	194	102	115	96	127	170.
29	139	170	183	194	185	173	184	172	123	102	185	212	197	181	209	205	201	200	130	131	145	138	154	153	170.
30	159	183	172	149	197	181	192	192	164	209	208	289	287	299	314	305	300	293	229	302	255	261	250	34	235.
31	98	165	71	40	109	174	191	197	193	201	211	208	214	213	216	214	212	212	202	201	192	201	194	195	190.
MEAN	177.	173.	188.	159.	177.	166.	183.	164.	132.	151.	231.	262.	272.	265.	274.	267.	258.	234.	207.	185.	171.	196.	169.	172.	

TOTAL NUMBER OF OBSERVATIONS = 8765 MEAN = 197.

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

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                 DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET
                          TRAILER NO. = 23  PERIOD(12/ 1/76 TO 12/31/76)

                                                HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1       4 282 289 294 298 311 242 214 217 233  78 117  34 297 346  22 273 166 196 136 159 231 128   2  264.
  2      51 133 183 298 109 146 155   4  38  91 288 240 220 215 209 208 203 200 146 135 150 148 186 178  172.
  3     184 181 172 165 190 159 121 177 191 159 150 217 245 114 353 331 277 205 179  42 244 318 234 202  192.
  4     156 121 185 181 154 256 165 136 121  92  36 276 214 198 183 207 228 209 203 171 300 303 236 228  193.
  5     288 295 304 292  95 259 189 230 303 295 328 336 327 334 336 337 329 344 328  37 266 267 166 165  303.
  6     247 165 300  83 135 122 234 199 175 260 283 341 313   3  33 161 173 180 190 198 203 195 187 196  200.
  7                                         214 213 215 216 214 200 195 200 200 189 188 185 205 202  202.
  8     195 194 200 189 193 200 199 197 193 183 189 198 207 198 207 203 192 172 175 190 203 176 167 184  191.
  9     193 206 191 187 194 193 191 157 178 196 204 221 238 233 222 237 234 270 318 314 312 314 322 333  229.
 10     324 332 323 316 322 322 319 313 264 283 306 322 312 355 353 341  10  31  66 142 128 259  21 105  333.
 11      92  87 272 188  49 204 198  48 121 191 271 274 278 274 247 165 292 331 254 258 173  98 116 111  207.
 12     108 255 224 120  64  70 170 182 126 193 288 305 293 295 286 299 284 289 265 199 128 167 209 147  219.
 13     137 181 282 128 151 154 151 161 176 183 199 204 219 219 214 217 180 173 178 187 188 192 194 176  184.
 14     188 186 160 144 198 186 110 206  26 115  12 303 312 288 293 328 347  27 257 140 124 336  58 270  235.
 15     224 181 181 123 164  96 241 258 294 175 328 307 320 340 336 330 316 329 314 189 138  51  79  87  281.
 16     204 140 187  72 122  87 324 217 112  85  44  18 347 340 333 326   3 252 285 250 126  60  37 283   24.
 17     241 200 140  10 115 113 263  91  89  96  15 302 296 296 295 296 252 280 131  10  42 279  70 145  338.
 18     191 189 183 168 179 162 167 140 113  59 197 216 219 213 220 286 306 101 190 191 174 175 290 246  194.
 19     243  80  91 233 239 226 192 357  43 306 270 280 285 320 345 360 360 348 243 290 359 296 273 254  297.
 20     187 153 277  95 123 224 287  17 159 111  58 344 302 321 355 323 287 259 230 203 154 136 121 145  199.
 21     133 154 129 126 158 187 100 148 120 168 207 209 214 203 226 222 231 221 217  65  62 196 251 203  178.
 22     108 116 114 125 176 242  35 309 145 116  95  93 337 338 335 332  41 355 281 129 107 168 166 169  104.
 23     193 144 153 168 159 173 172 174 177 199 198 205 196 215 217 211 192 191 210 209 209 210 207 211  192.
 24     208 208 212 213 240 215 275 308 270 287 299 318 317 334 350 341 346 342 307 287 310  14  97 158  290.
 25     224 226 174 174 174 191  94 182 178 182 196  36  43  79 208 218 207 210 196 196 190 187 164 181  183.
 26     196 195 185 189 170 157 190 196 195 188 204 222 203 215 201 208 198 193 185 184 158 164 178 145  188.
 27     181 168 186 181 190 198 194 197 205 207 219 284 280 280 299 319 316 328 305   4 317 291 262 262  249.
 28     241 237 241 240 251 139 141 165 181 166 169 190 309 221         209 210 206 202 176 182 185 158  198.
 29     187 197 197 208 203 197 198 201 182 132 197 220 208 191 216 211 207 208 187 177 183 189 193 192  195.
 30     193 198 196 181 205 203 202 202 201 215 213 287 288 302 326 312 306 293 247 308 278 291  51  94  245.
 31      89 102 128 267 203 193 201 207 203 208 216 214 218 218 222 219 218 218 210 211 203 210 216 204  204.
 MEAN   189.178.196.176.171.184.190.192.169.176.231.262.271.267.276.272.261.242.223.192.179.213.179.184.

                           TOTAL NUMBER OF OBSERVATIONS =  8667     MEAN  =     208.

              : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1																									
2																									
3																									
4																									
5																									
6																									
7													0	4	5	3	3	2	2	-1	0	-3	1	0	1.
8	-1	0	-2	-6	-1	-2	-6	0	-1	3	7	7	7	6	7	6	2	0	2	0	3	6	5	3	1.
9	6	0	8	2	4	3	0	0	5	12	15	15	16	18	18	17	15	12	12	13	8	7	13	15	10.
10	15	11	9	9	7	5	3	2	0	3	6	2	0	8	11	16	9	-7	-1	3	-2	1	1	2	5.
11	3	3	5	1	1	2	0	-2	0	-12	-1	8	5	2	-1	-12	-1	-10	9	3	0	4	2	-3	0.
12	1	5	-1	-19	-10	-8	4	-4	-3	-12	0	4	7	9	6	10	11	8	10	-6	-18	1	2	0	0.
13	1	-8	-3	4	11	8	6	7	7	8	15	16	16	18	16	14	13	15	13	12	8	5	7	11	9.
14	4	4	17	18	-24	-2	-3	8	-10	0	0	7	12	6	16	19	15	2	14	1	4	0	-2	8	5.
15	9	3	6	17	5	1	5	2	-16	-16	8	14	16	17	16	10	14	7	5	0	-8	-3	0	0	5.
16	2	-2	-4	0	1	-7	3	-2	7	0	14	15	18	17	16	16	0	16	8	0	-15	-3	7	-5	4.
17	-1	-18	-18	-9	-16	-19	0	-18	-14	-18	1	7	6	7	5	5	6	0	-6	2	3	-3	-7	1	-5.
18	-9	-9	-4	0	4	2	8	11	6	-3	-5	11	11	9	11	9	0	0	6	3	3	0	-7	-11	2.
19	-15	-21	0	5	0	-15	-24	-12	-12	2	5	6	8	12	13	12	12	5	1	0	-1	0	0	-6	-1.
20	-12	-15	-6	-1	-2	9	10	17	20	16	3	3	0	0	2	0	0	1	3	-7	-1	-5	-1	2	1.
21	4	5	4	2	6	7	1	7	7	1	5	5	4	1	13	35									7.
22												-3	-4	-4	-7	-6	-17	-24	-22	-30	-26	-4	0	-17	-14.
23	-20	-20	-11	-17	-13	-12	-14	-14	-11	-14	-2	-7	-7	-12	-7	-12	-12	-14	-5	-5	-5	-5	-7	-8	-12.
24	-8	-9	-9	-14	-21	-27	-14	-12	-7	-12	-7	-9	-6	-8	-11	-7	-8	-10	-12	-15	-26	-36	-27	-17	-15.
25	-12	-20	-10	-8	-7	-10	-10	-11	-14	-22	-23	-20	-11	-18	-5	0	0	-2	-8	-9	-2	-8	-2	-1	-11.
26	-7	-3	-6	-3	-2	-1	-5	-7	-3	-9	-1	0	0	0	0	0	0	0	-3	-9	-3	-2	-6	-1	-4.
27	-3	0	0	0	-1	1	0	5	4	4	4	8	10	9	10	9	7	3	0	3	1	0	0	-3	3.
28	0	1	-2	-14	-17	-5	-19	-6	-6	-21	-8	-8	-6	-1			-1	-5	-11	-24	-2	-1	0	0	-8.
29	0	-3	-4	0	-10	-17	-17	-4	1	4	4	0	4	6	12	12	11	12	7	9	11	11	11	9	3.
30	6	2	8	10	14	5	9	5	3	15	16	18	18	20	23	19	18	12	3	-12	4	1	-15	-9	8.
31	10	11	0	-2	-9	6	9	10	-2	13	14	16	16	16	15	14	13	10	9	2	7	7	2	9	8.
MEAN	-1.	-4.	-2.	-2.	-4.	-4.	-3.	-1.	-2.	-3.	3.	5.	6.	6.	8.	6.	5.	1.	1.	-3.	-3.	-2.	-1.	-2.	

TOTAL NUMBER OF OBSERVATIONS = 6747 MEAN = 0.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-11	-16	-17	-13	-12	-17	-22	-20	-31	-39	-27	-23	-22	-19	-20	-23	-27	-16	-25	-19	-13	-30	-19	-36	-23.
2	-36	-20	-25	-29	-26	-23	-32	-37	-26	-17	-25	-15	-10	-11	-10	-10	-10	-10	-16	-20	-23	-21	-27	-24	-23.
3	-24	-19	-21	-19	-19	-25	-17	-21	-30	-28	-33	-19	-20	-27	-19	-19	-18	-14	-28	-30	-33	-33	-25	-31	-25.
4	-42	-42	-34	-28	-41	-36	-18	-15	-16	-21	-21	-22	-12	-13	-15	-13	-17	-16	-10	-14	-19	-19	-24	-19	-23.
5	-35	-21	-16	-17	-34	-33	-36	-38	-36	-31	-17	-14	-12	-11	-13	-14	-15	-24	-31	-44	-36	-30	-40	-42	-28.
6	-37	-41	-45	-45	-43	-45	-44	-44	-43	-43	-43	-29	-23	-25	-30	-33	-16	-13	-12	-15	-12	-13	-17	-10	-31.
7	-10	-12	-12	-19	-27	-24	-25	-25	-17	-23	-18	-19	-15	-13	-12	-11	-11	-11	-11	-17	-16	-21	-12	-10	-18.
8	-16	-21	-11	-20	-29	-31	-30	-21	-29	-13	-10	-10	-11	-11	-11	-12	-15	-21	-21	-18	- 8	- 6	- 7	-16	-18.
9	-11	-17	-12	-11	- 7	- 8	-12	-23	-19	-10	-10	-12	-14	-13	-15	-15	-14	-17	-19	-20	-19	-18	-19	-16	-16.
10	-13	-11	-14	-16	-16	-17	-19	-18	-19	-17	-15	-20	-22	-20	-16	-10	-15	-24	-41	-29	-35	-24	-23	-31	-22.
11	-33	-31	-21	-38	-36	-21	-29	-41	-37	-38	-30	-14	-14	-20	-22	-38	-26	-26	-13	-22	-34	-22	-20	-37	-29.
12	-37	-18	-35	-43	-40	-42	-27	-42	-45	-45	-33	-16	-13	-14	-20	-18	-16	-20	-22	-37	-42	-28	-34	-34	-31.
13	-20	-37	-41	-26	-15	-17	-18	-26	-17	-13	-11	-10	-10	-12	-13	-15	-19	-18	-19	-21	-22	-37	-32	-21	-22.
14	-22	-34	-24	-20	-26	-36	-37	-30	-30	-30	-34	-28	-23	-24	-22	-22	-20	-31	-24	-35	-33	-41	-40	-26	-30.
15	-24	-25	-24	-20	-35	-36	-21	-32	-38	-39	-21	-14	-15	-16	-17	-20	-17	-25	-38	-37	-37	-27	-32	-31	-28.
16	-31	-28	-25	-34	-29	-35	-28	-39	-25	-33	-24	-24	-20	-19	-23	-20	-32	-20	-25	-42	-43	-32	-35	-30	-31.
17	-38	-42	-43	-42	-42	-37	-28	-42	-44	-43	-34	-21	-21	-22	-22	-25	-24	-37	-43	-42	-30	-34	-27	-36	-36.
18	-43	-25	-21	-16	-27	-23	-15	-17	-20	-30	-30	-11	-12	-11	-10	-13	-25	-30	-17	-26	-27	-35	-35	-30	-24.
19	-41	-41	-31	-13	-15	-23	-40	-37	-26	-15	-12	-11	-10	- 9	-10	-10	- 8	-14	-18	-21	-25	-22	-16	-41	-23.
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24	- 8	- 9	- 8	- 9	-21	-20	-15	-16	-12	-14	-11	-15	-11	-11	-13	-11	- 9	- 9	-13	-15	-25	-27	-35	-30	-17.
25	-25	-32	-35	-36	-24	-36	-29	-27	-21	-33	-22	-19	-20	-31	-18	-11	- 9	-10	-14	-12	-13	-10	-13	-12	-23.
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27	-17	-12	- 9	-11	-10	- 7	- 8	-10	- 9	- 9	-11	-13	- 7	- 6	- 8	- 9	-10	-13	-21	-15	-12	-13	-18	-20	-13.
28	-15	-13	-14	-20	-30	-27	-36	-36	-22	-31	-25	-23	-21	-19			-13	-13	-23	-22	-26	-25	-24	-21	-24.
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31	-19	-35	-30	-35	-35	-14	-10	- 8	-14	-10	- 9	- 8	- 8	- 7	- 7	- 7	- 7	- 9	- 8	- 9	- 9	- 8	-11	- 9	-15.
MEAN	-26.	-26.	-25.	-26.	-27.	-28.	-27.	-28.	-28.	-25.	-22.	-18.	-16.	-17.	-17.	-17.	-17.	-19.	-23.	-27.	-26.	-26.	-26.	-27.	

TOTAL NUMBER OF OBSERVATIONS = 8844 MEAN = -23.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(12/ 1/76 TO 12/31/76)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-5	-5	-6	-7	-6	-6	-9	-16	-18	-19	-5	-3	-4	-1	0	-4	-5	-5	-2	-7	-10	-5	-9	-3	-8.
2	2	-12	-10	0	-9	-9	2	3	-4	-8	-1	-5	-9	-13	-14	-11	-11	-9	-2	-5	-4	-5	-4	2	-7.
3	4	3	6	3	4	7	-3	-5	-3	-4	-5	-7	1	12	-10	-8	-6	-11	-1	10	9	-1	31	27	2.
4	11	13	12	3	-1	6	-11	-13	-15	-14	-3	3	-12	-7	-7	-12	-9	-11	-6	-11	-6	-5	-5	-11	-6.
5	-3	-7	-8	-4	0	-11	-26	-34	-26	-23	-14	-12	-9	-9	-9	-10	-11	-11	-16	-35	-33	-32	-45	-36	-19.
6	-37	-40	-44	-44	-44	-46	-46	-46	-47	-45	-44	-30	-21	-23	-18	-15	-14	-13	-15	-17	-14	-13	-15	-16	-31.
7	-18	-19	-18	-10	0	-9	-13	-4	-9	-9	-8	-4	-10	-12	-14	-12	-13	-15	-14	-11	-12	-10	-16	-16	-13.
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9	-15	-11	-17	-11	-15	-16	-12	-9	-6	-13	-16	-13	-13	-15	-16	-14	-10	-5	-10	0	-1	-2	-10	-10	-12.
10	-10	-12	-12	-14	-15	-15	-14	-15	-9	-12	-10	-5	-3	-9	-9	-12	-10	-5	-4	-11	-7	-7	-10	-11	-11.
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14	0	-1	-4	-10	-5	-5	4	2	-4	-3	-2	-7	-7	-4	-7	-11	-7	-2	27	39	37	32	6	0	2.
15	-5	-13	-10	-13	0	-4	-4	2	1	0	-8	-6	-8	-7	-5	-6	-10	-5	25	12	1	0	2	-2	-4.
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27	-8	-8	-11	-10	-7	-10	-9	-12	-12	-12	2	-11	-10	-10	-16	-16	-16	-14	-10	-12	-14	-15	-12	-9	-12.
28	-15	-2	-10	-6	-1	0	0	-3	-9	-7	0	3	0	-9			-17	13	16	-5	-3	-7	-2	-8	-4.
29	-11	-14	-15	-18	-15	-10	-10	7	9	-12	-8	12	-9	-12	-12	-14	-15	-14	-7	-4	-4	-4	-11	-11	-10.
30	-7	-8	-8	-12	-11	-4	-7	-5	-3	-8	-11	-9	-9	-10	-9	-8	-11	-9	-10	3	0	1	3	1	-7.
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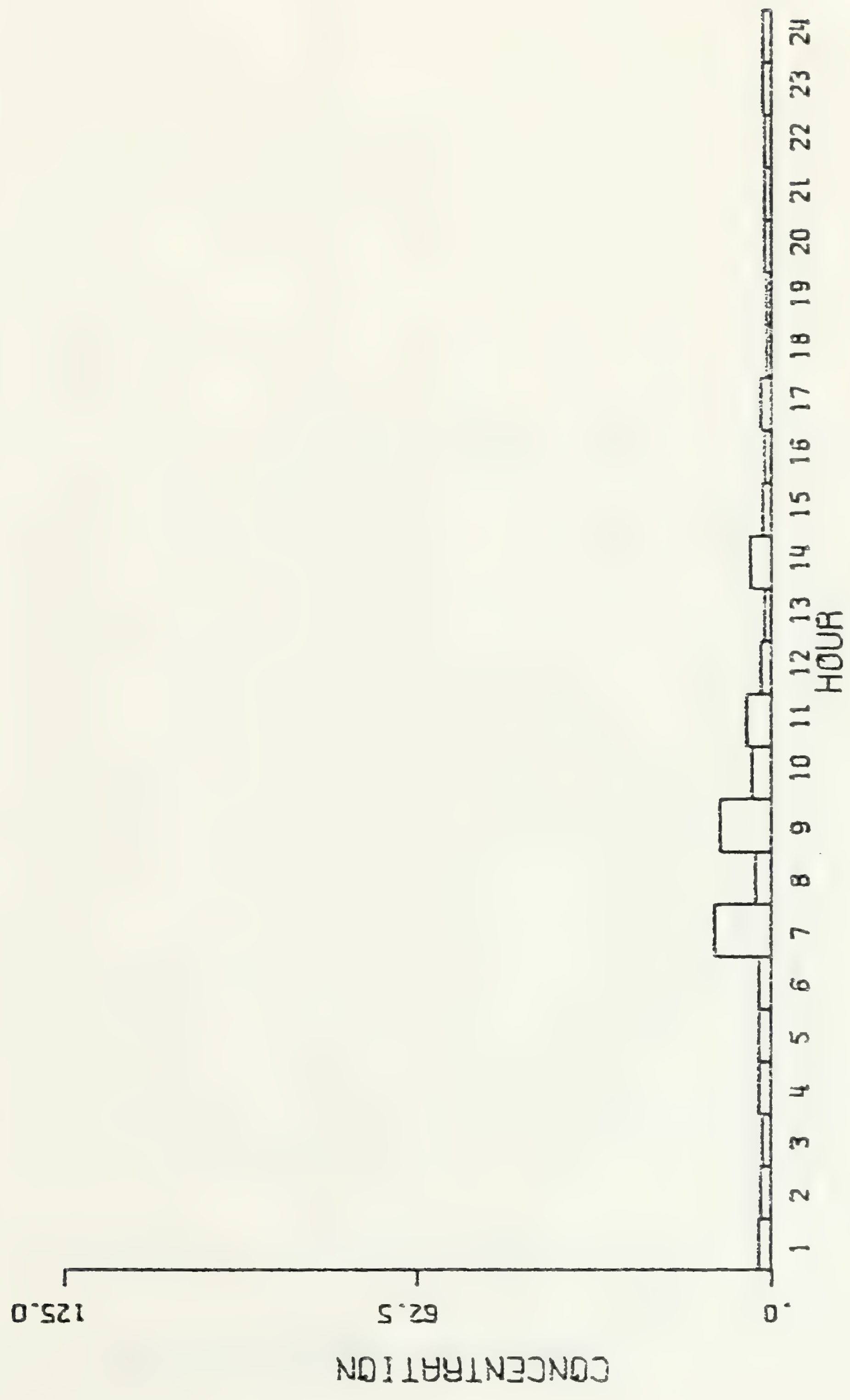
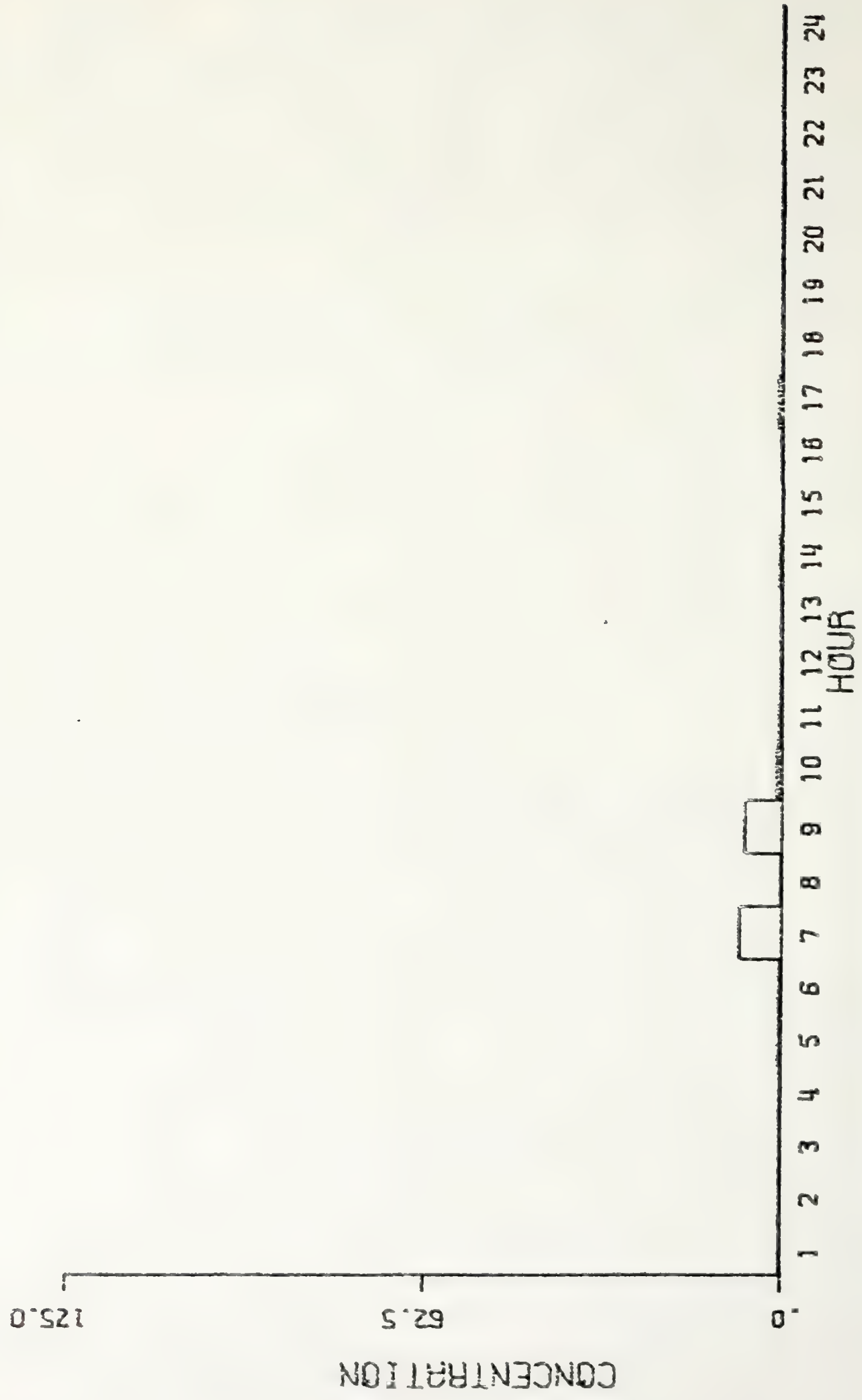
MEAN	-6.	-6.	-8.	-7.	-6.	-8.	-11.	-10.	-10.	-10.	-9.	-8.	-10.	-9.	-10.	-11.	-11.	-6.	-3.	-3.	-3.	-3.	-5.	-6.	

TOTAL NUMBER OF OBSERVATIONS = 8831 MEAN = -7.

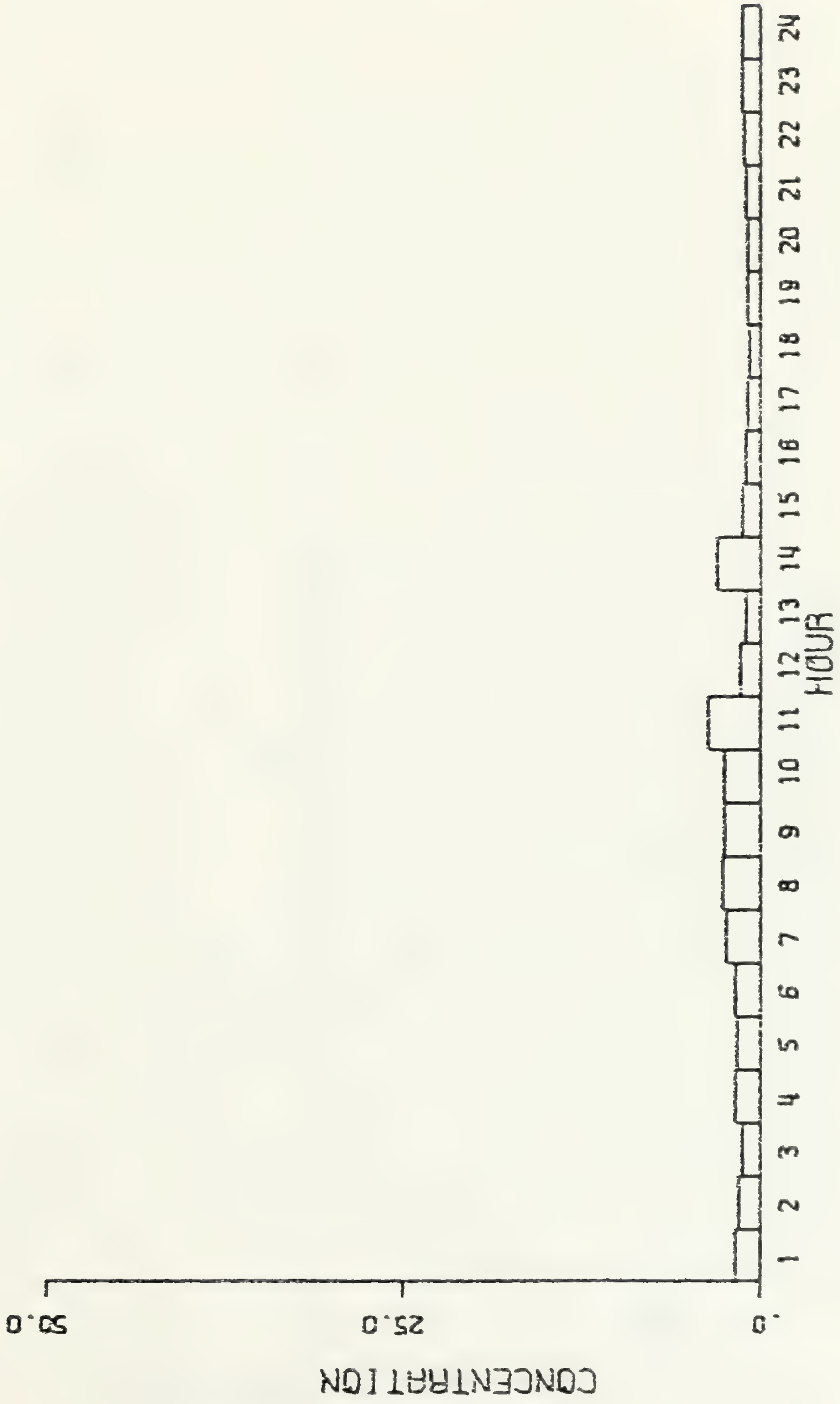
! INDICATES CALIBRATION DURING THE HOUR



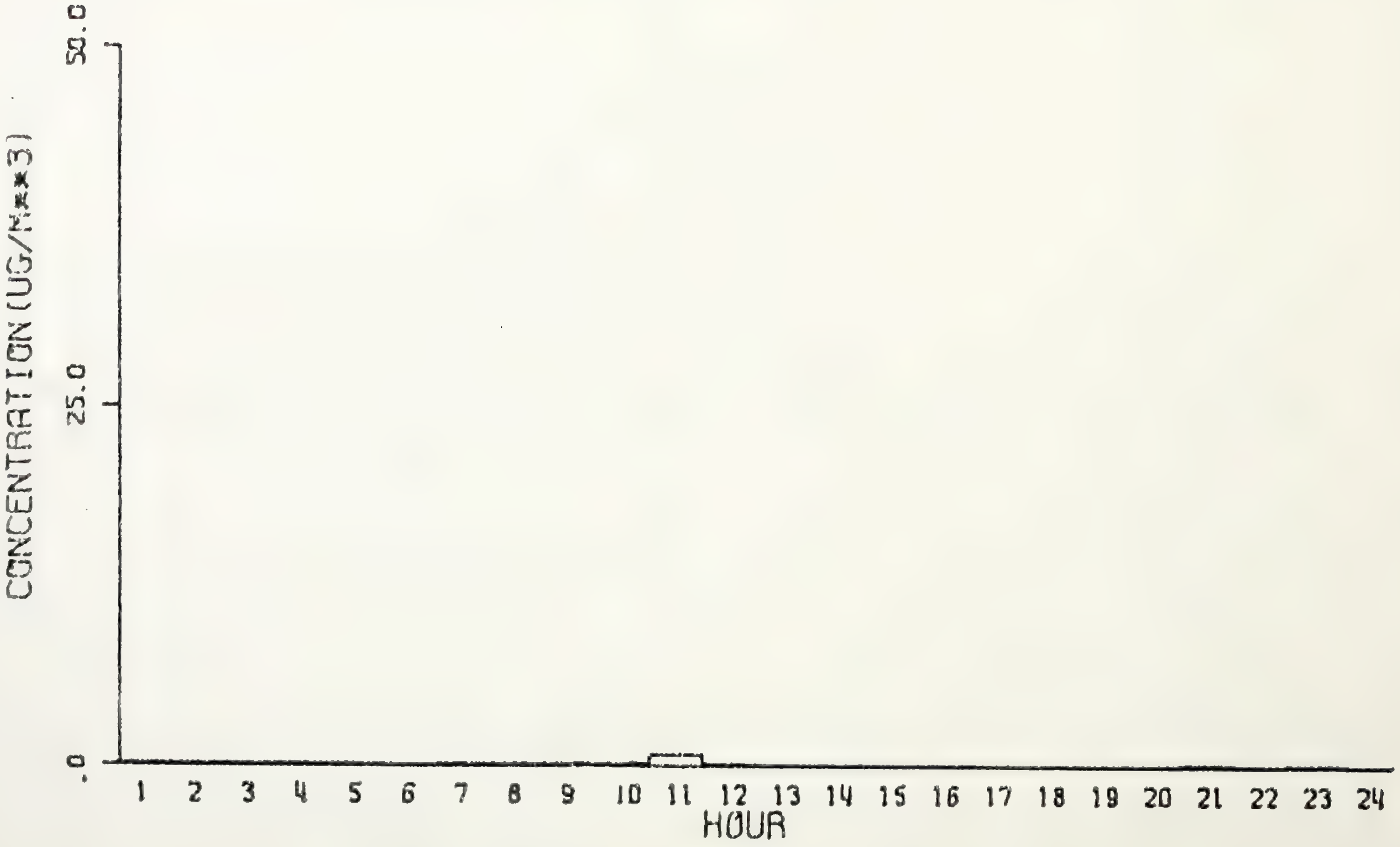
DIURNAL VARIATION OF NITROGEN OXIDES(UG/M**3)
SITE - 23



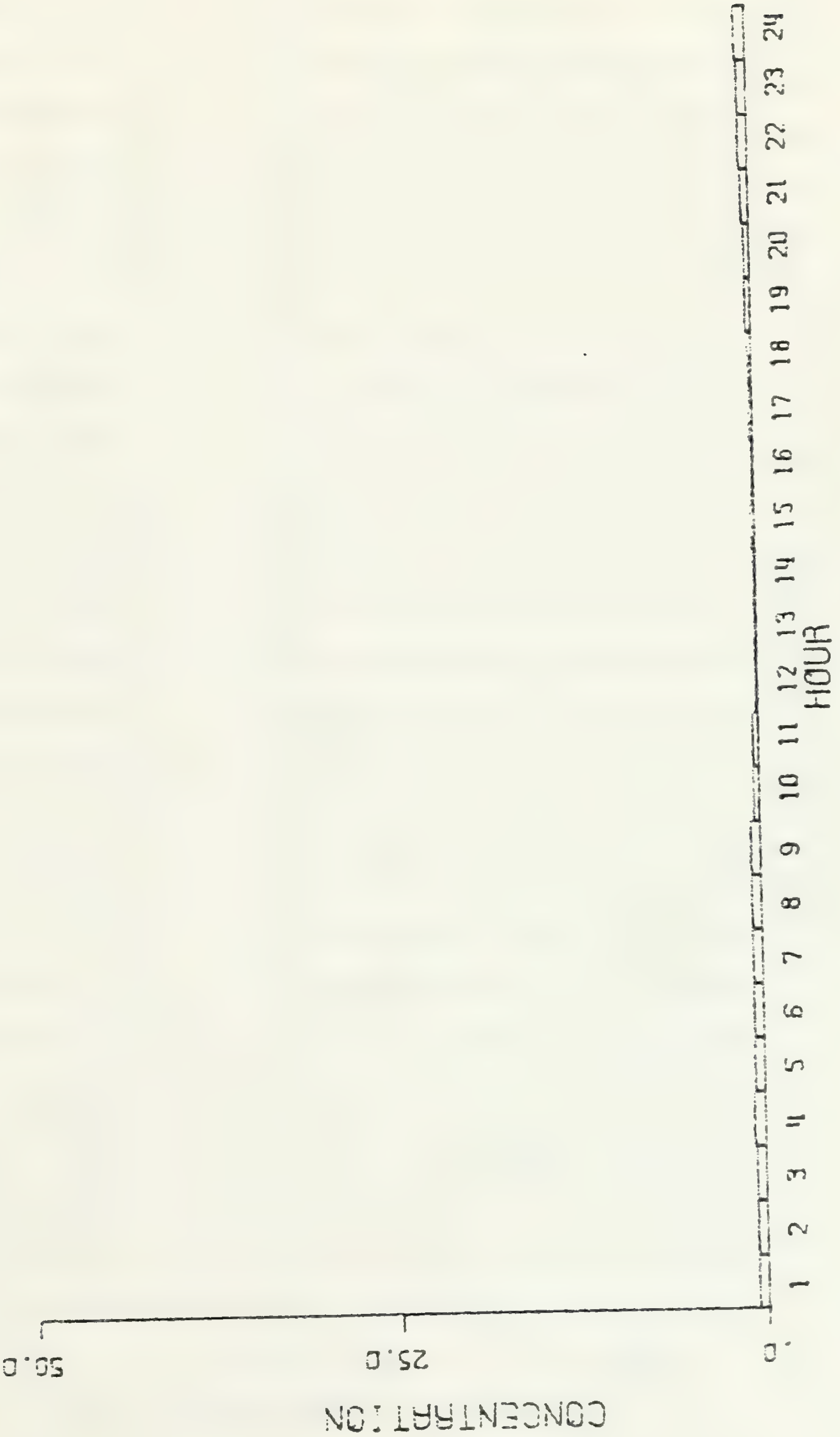
DIURNAL VARIATION OF NITRIC OXIDE(UG/M**3)
SITE - 23



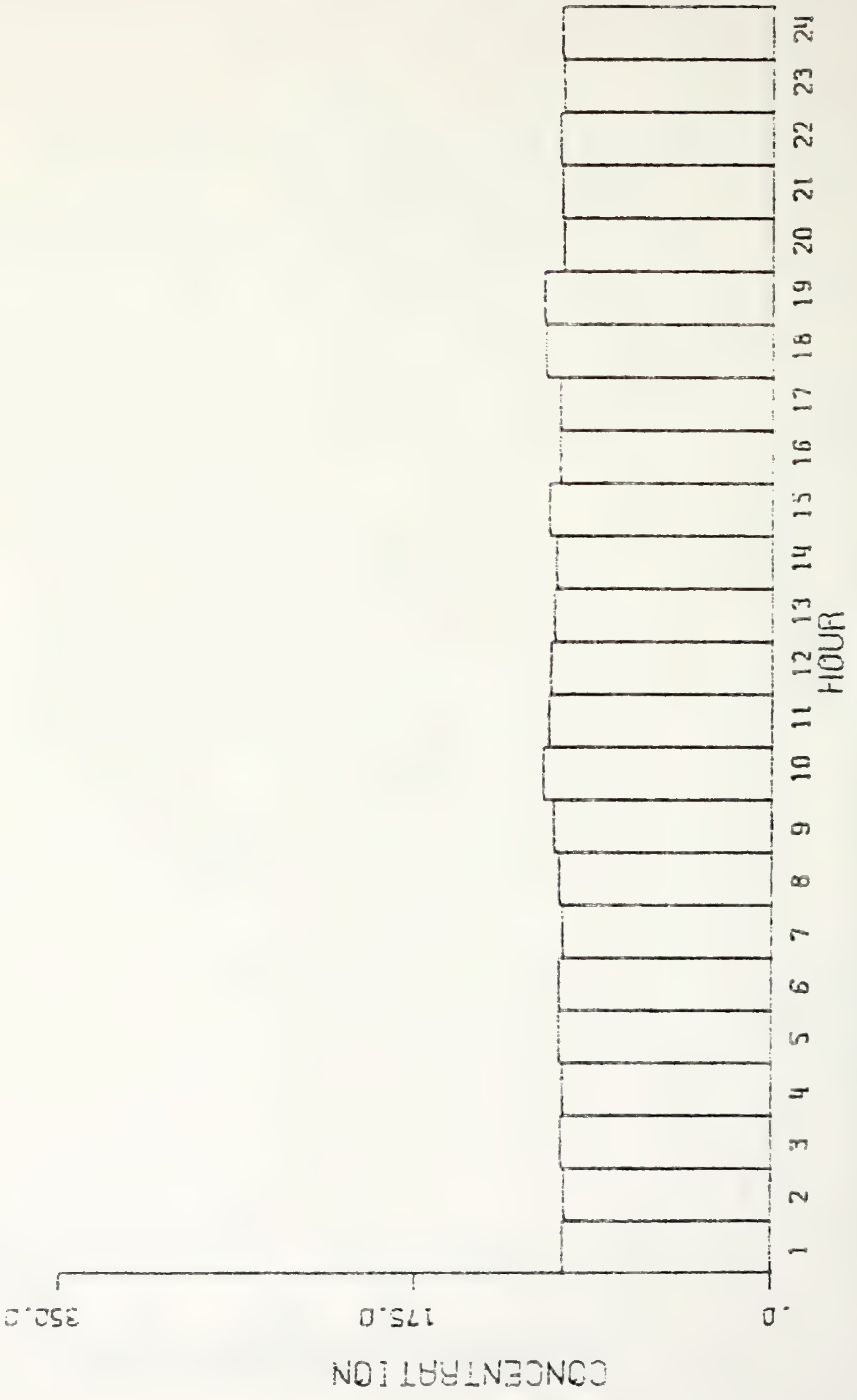
DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M**3)
SITE - 23



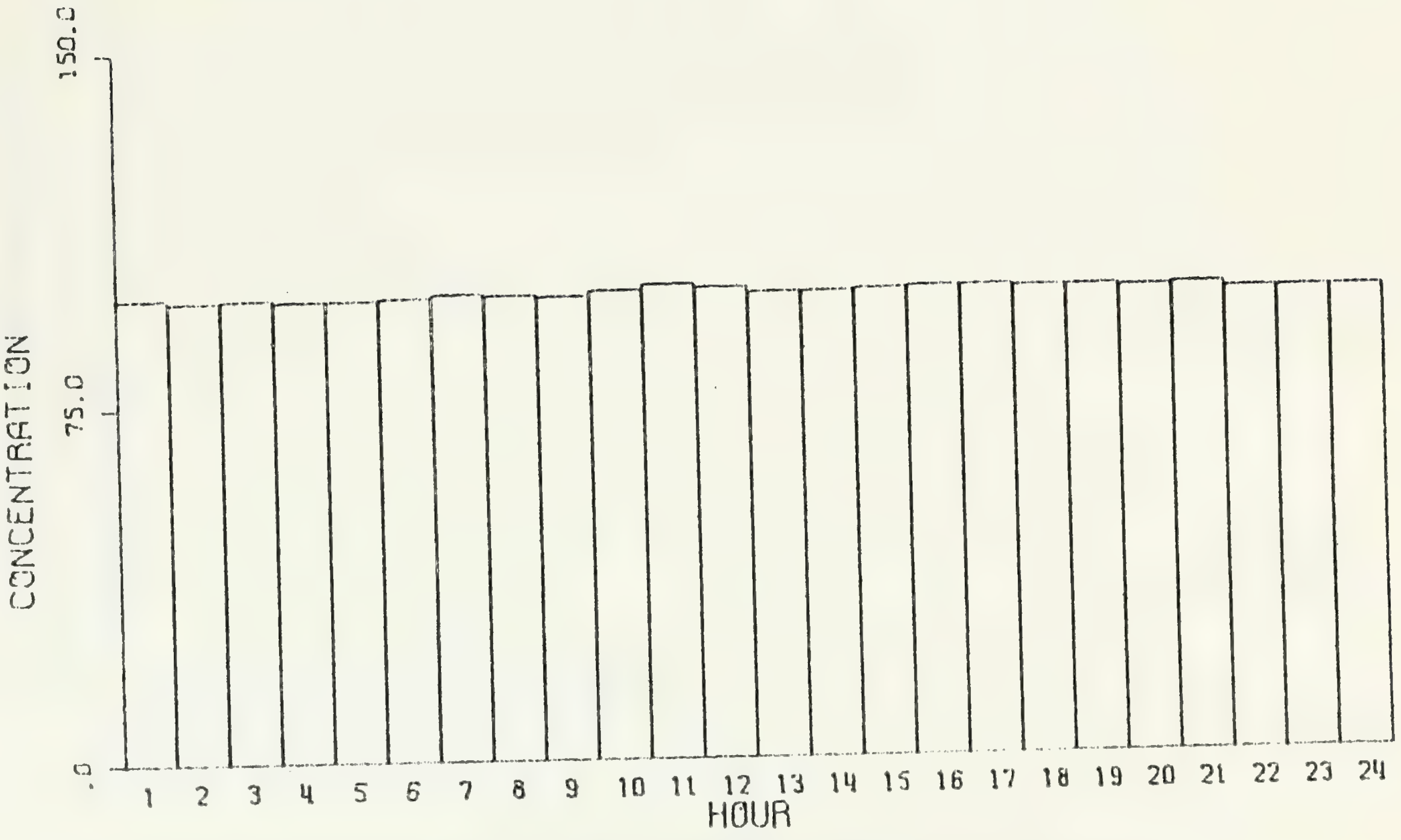
DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M**3)
SITE - 23



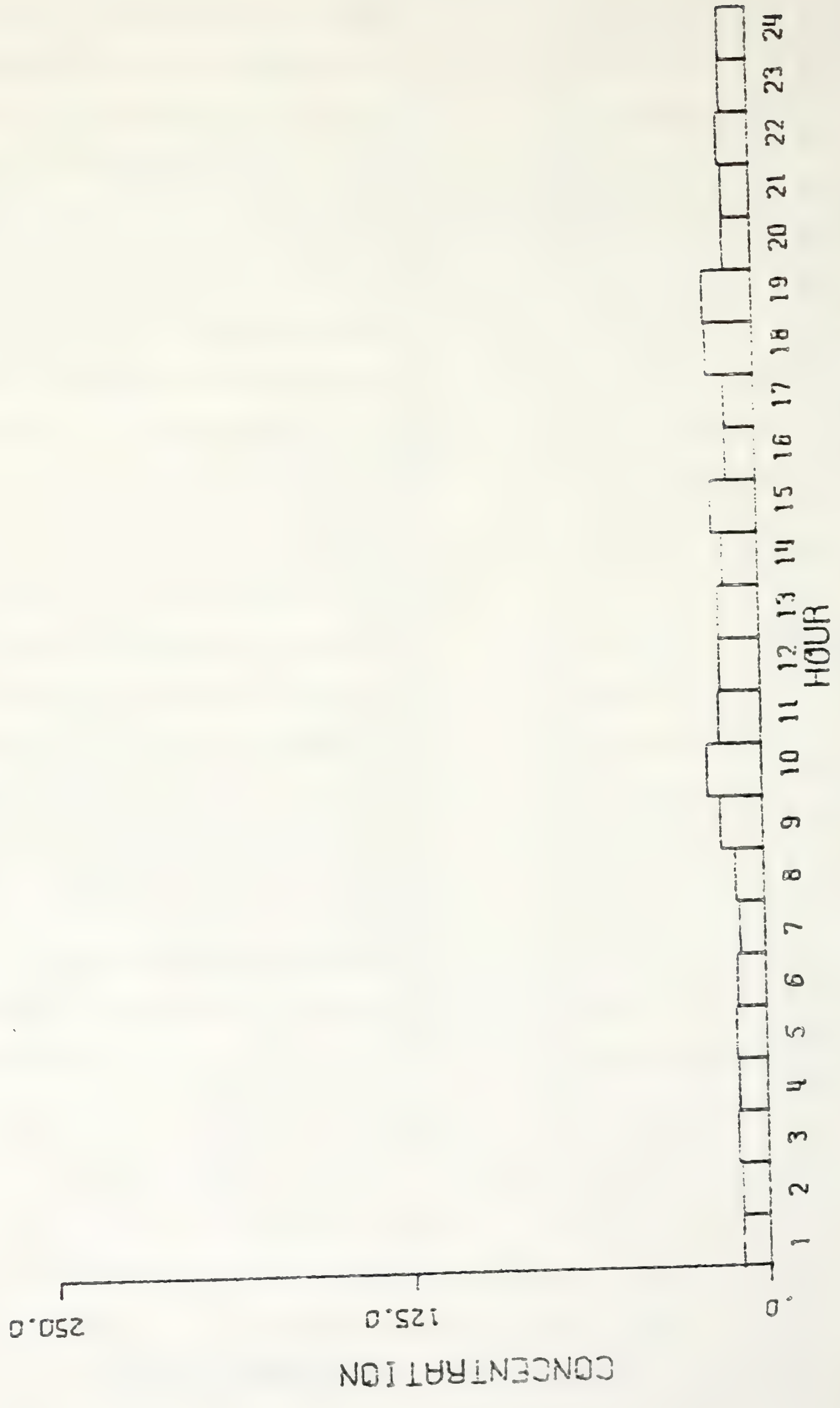
DIURNAL VARIATION OF HYDROGEN SULFIDE (UG/M**3)
SITE - 23



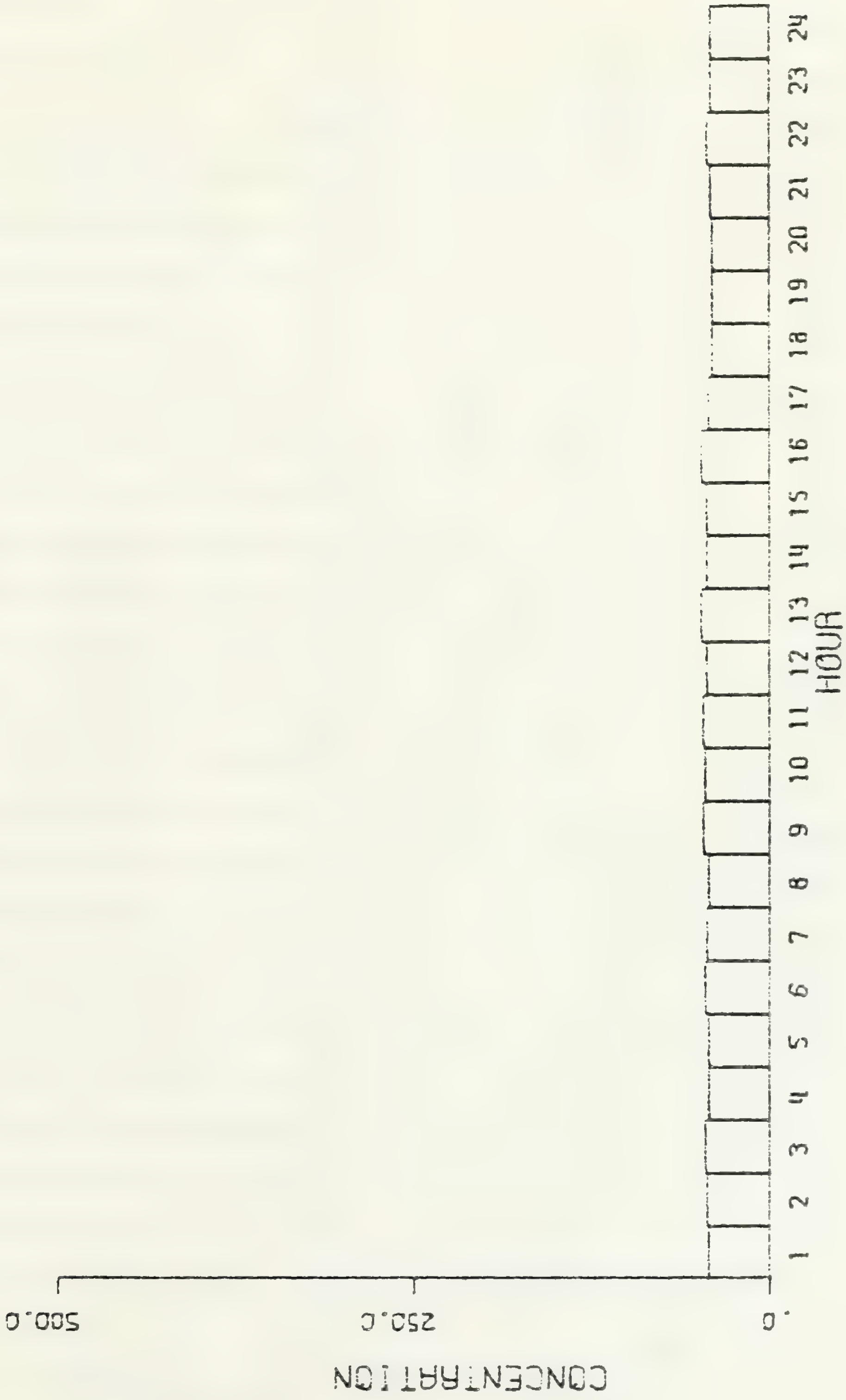
DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M**3 X 10**-1)
SITE - 23



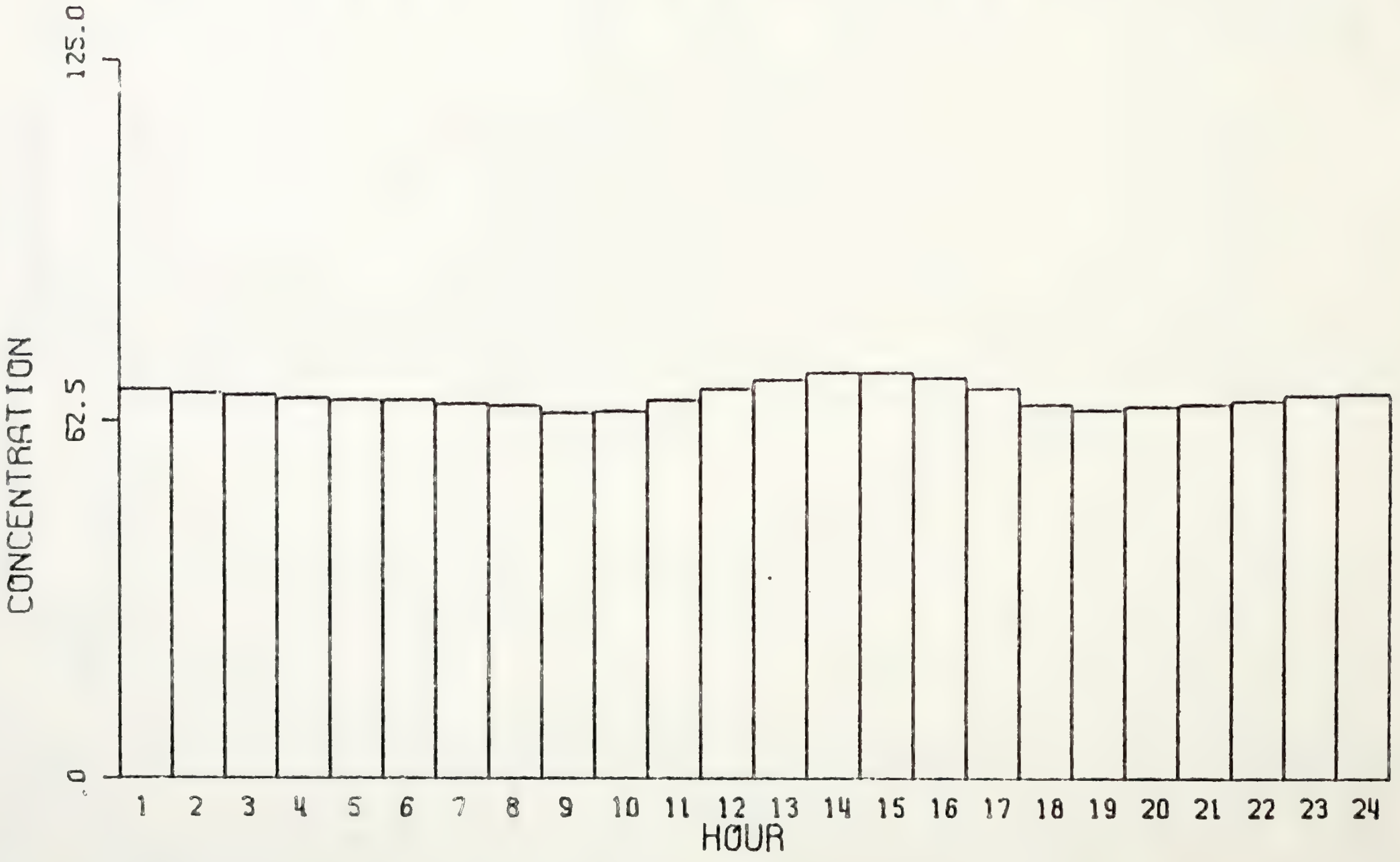
DIURNAL VARIATION OF METHANE(UG/M**3 X 10**-1)
SITE - 23



DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M**3 X 10**-1)
SITE - 23

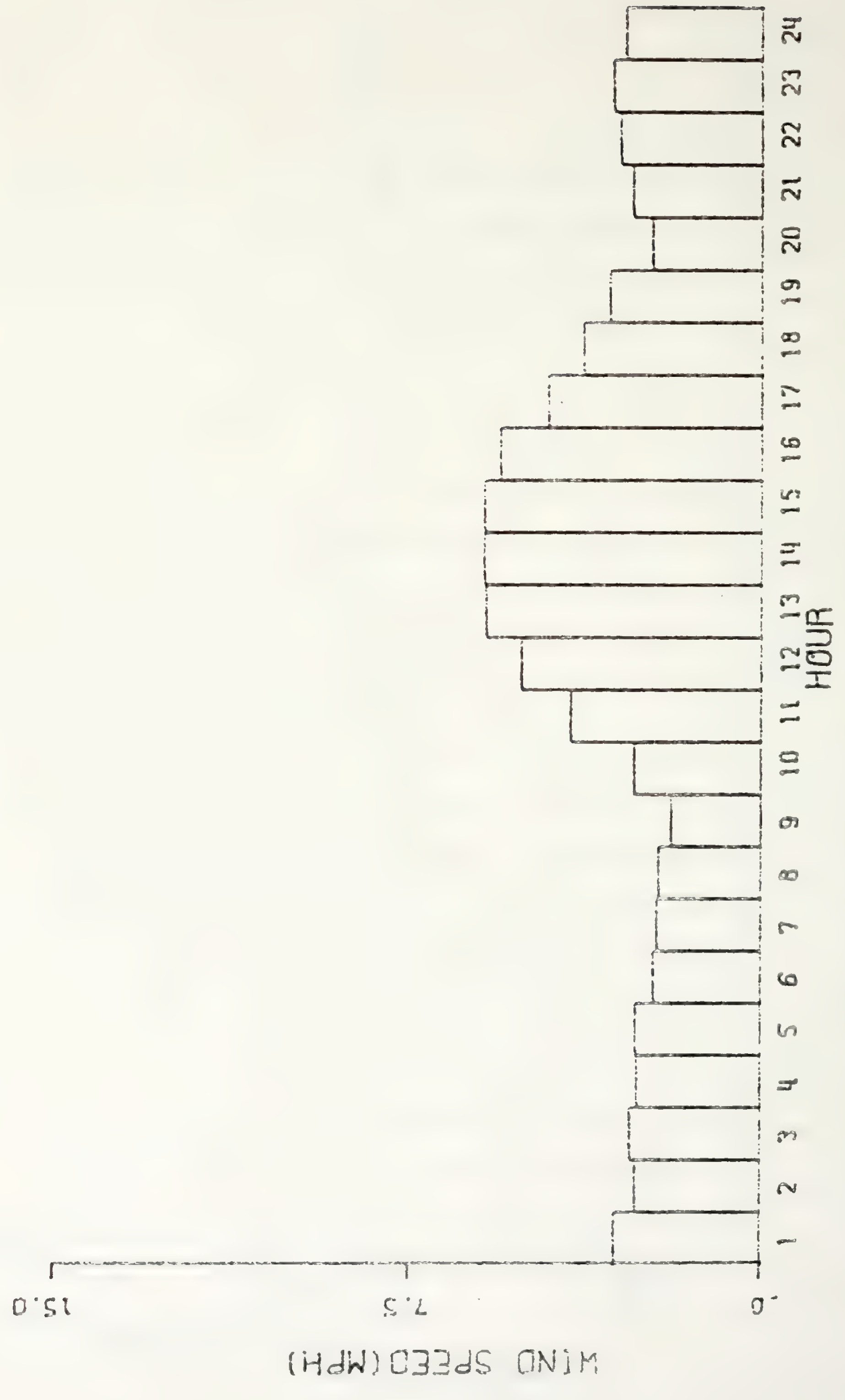


DIURNAL VARIATION OF CARBON MONOXIDE (UG/M**3 X 10**-1)
SITE - 23

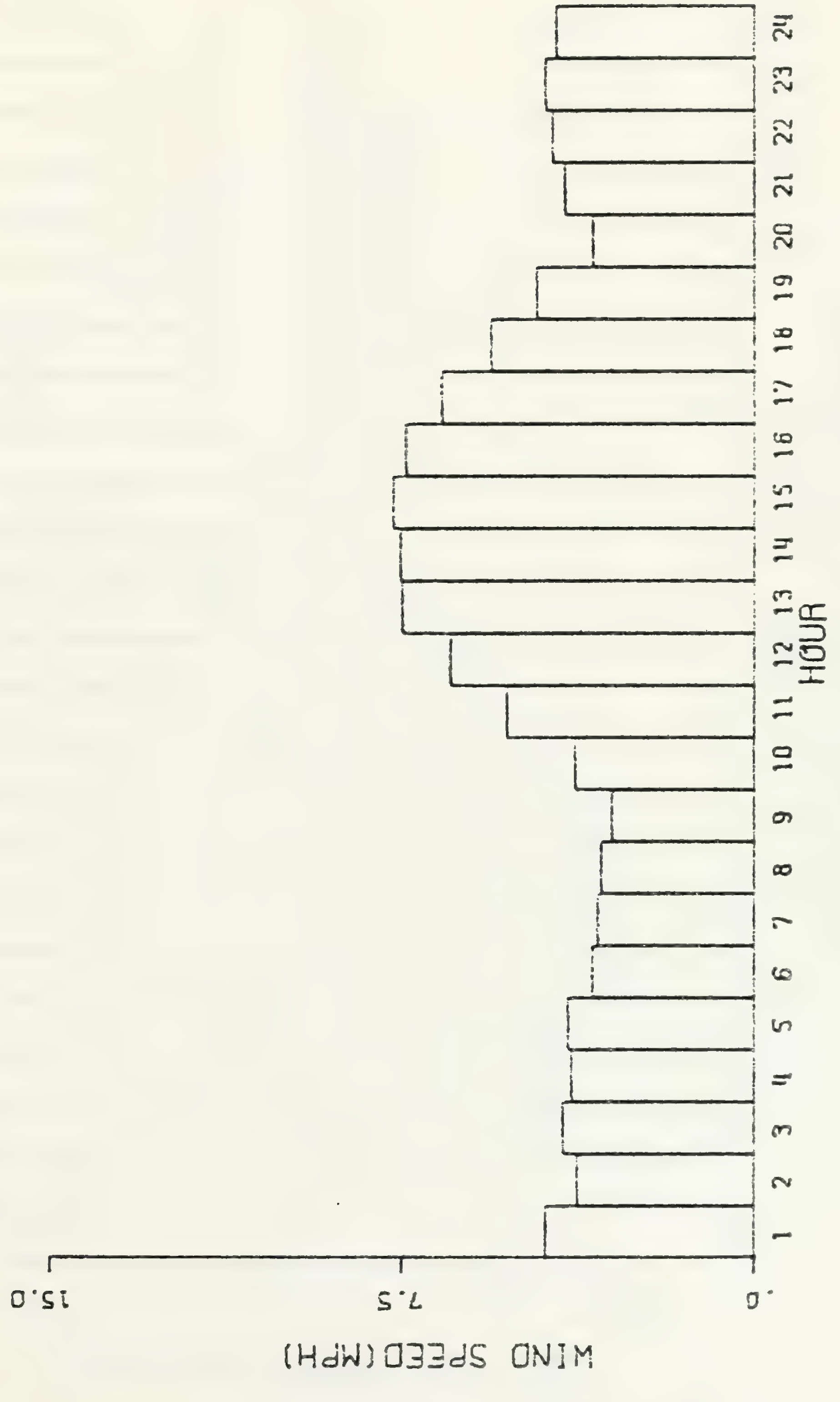


DIURNAL VARIATION OF OZONE (UG/M**3)
SITE - 23

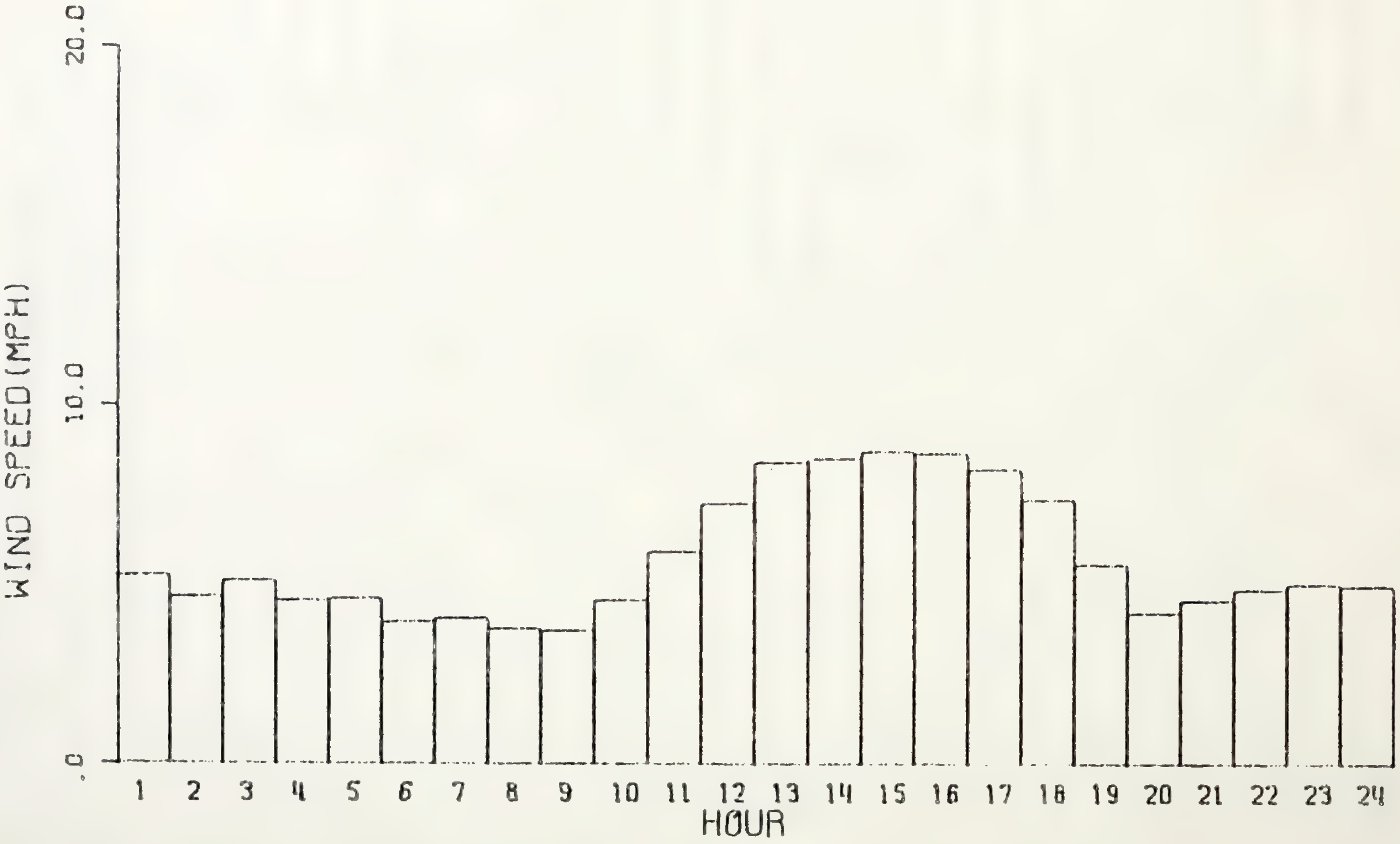
HOURLY TOTAL PRECIPITATION (HUNDREDTHS OF INCHES)
SITE - 23



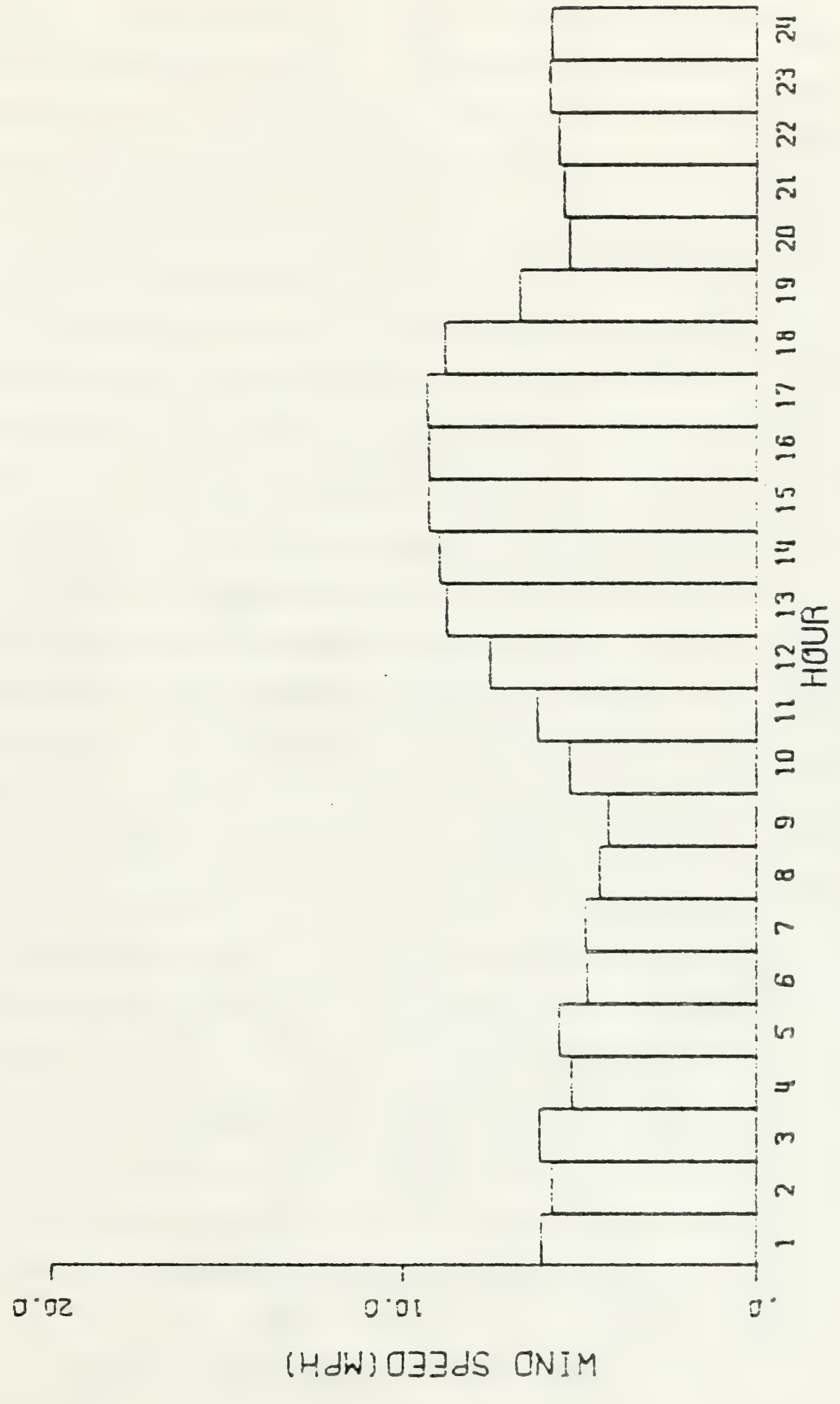
DIURNAL VARIATION OF WIND SPEED AT 8 FEET (MPH)
SITE - 23



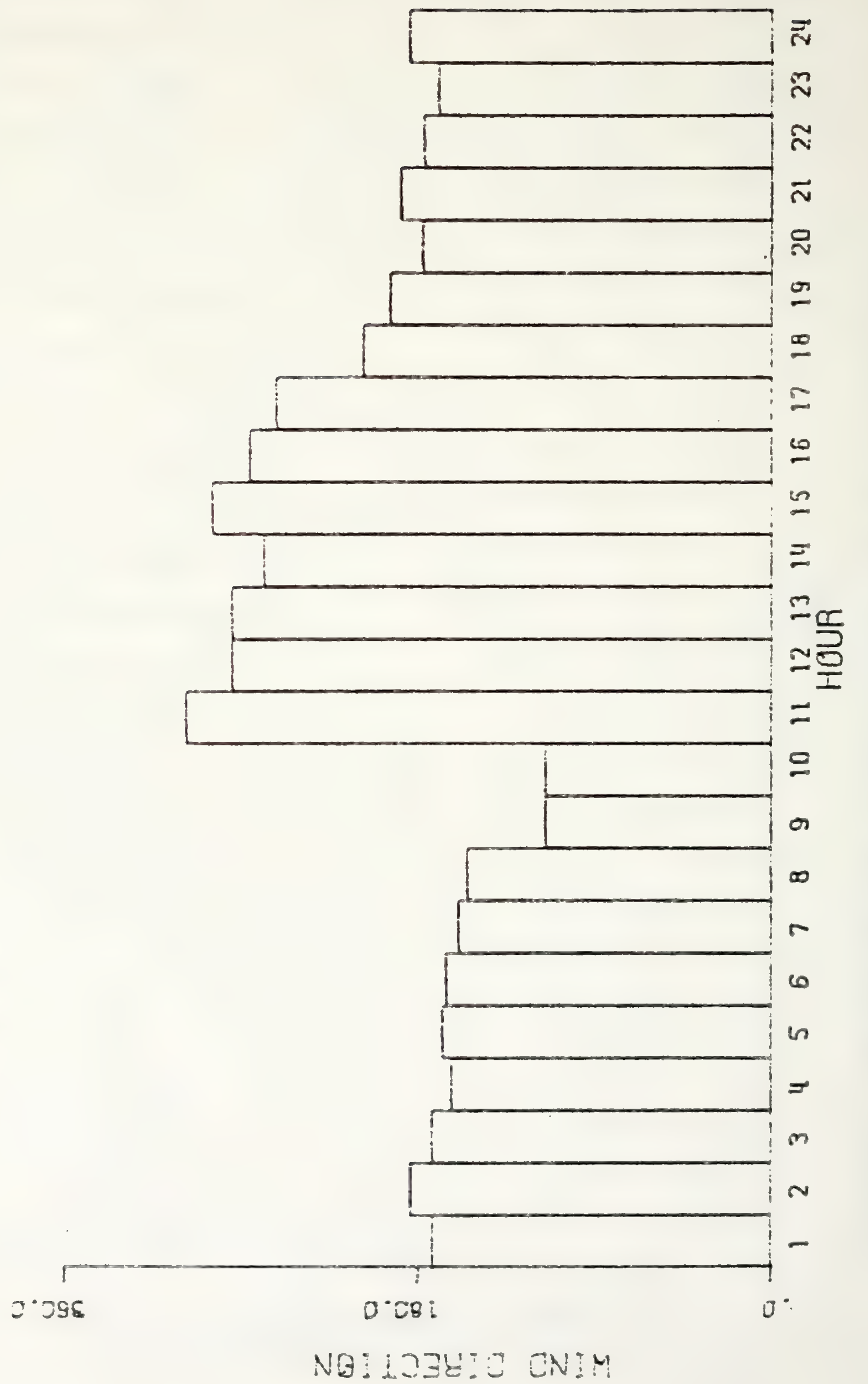
DIURNAL VARIATION OF WIND SPEED AT 30 FEET (MPH)
SITE - 23



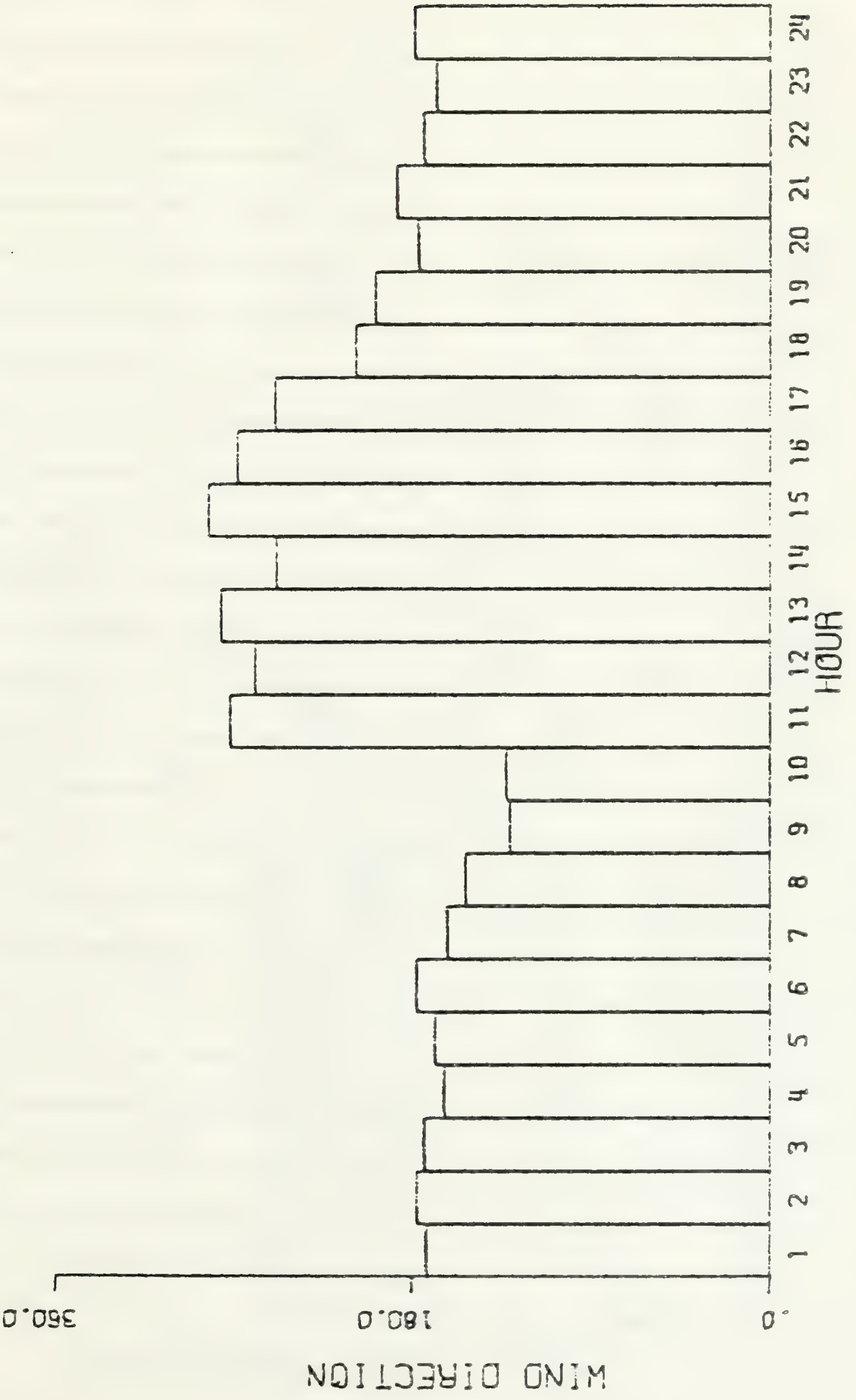
DIURNAL VARIATION OF WIND SPEED AT 100 FEET (MPH)
SITE - 23



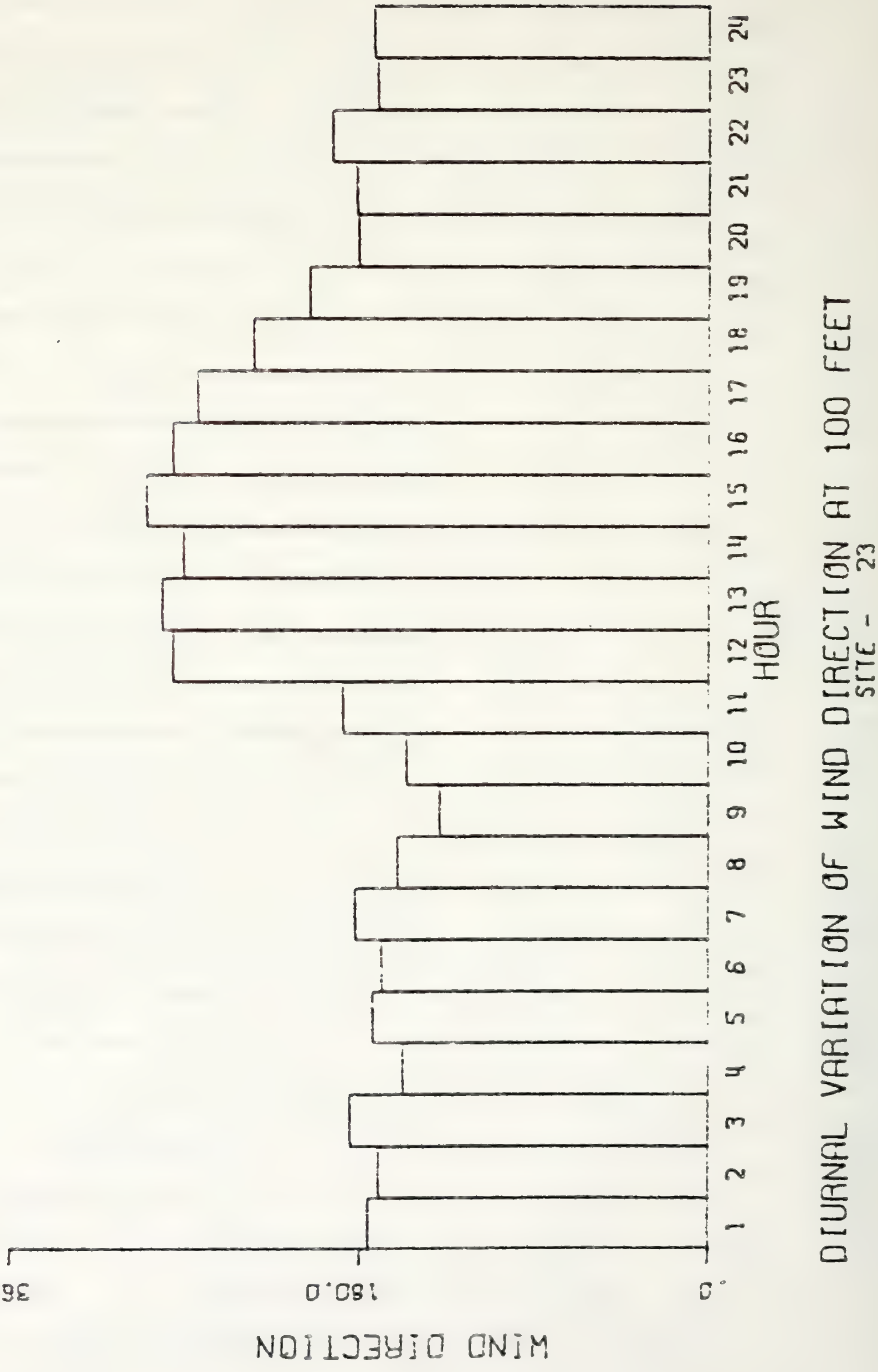
DIURNAL VARIATION OF WIND SPEED AT 200 FEET (MPH)
SITE - 23



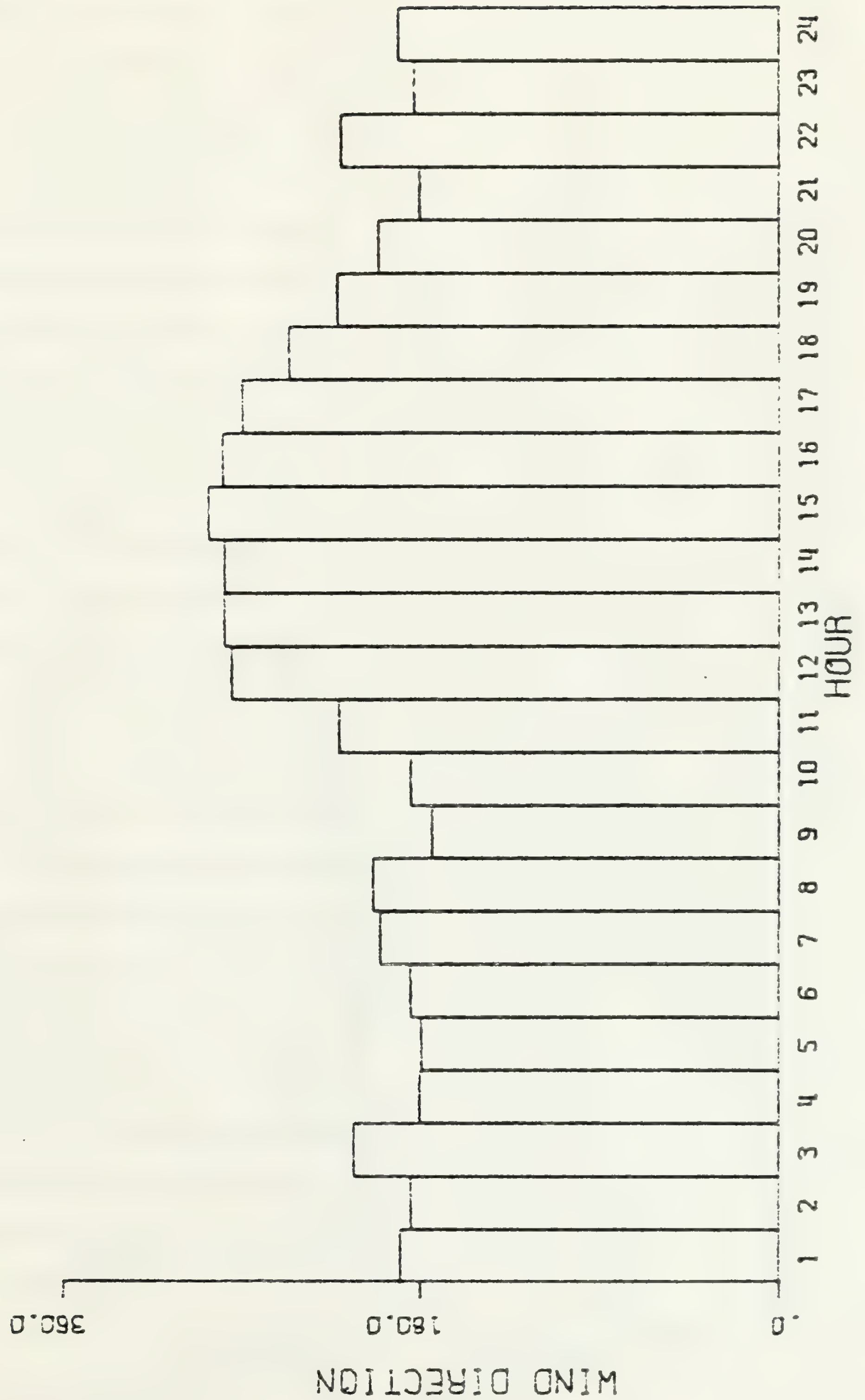
DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET
SITE - 23



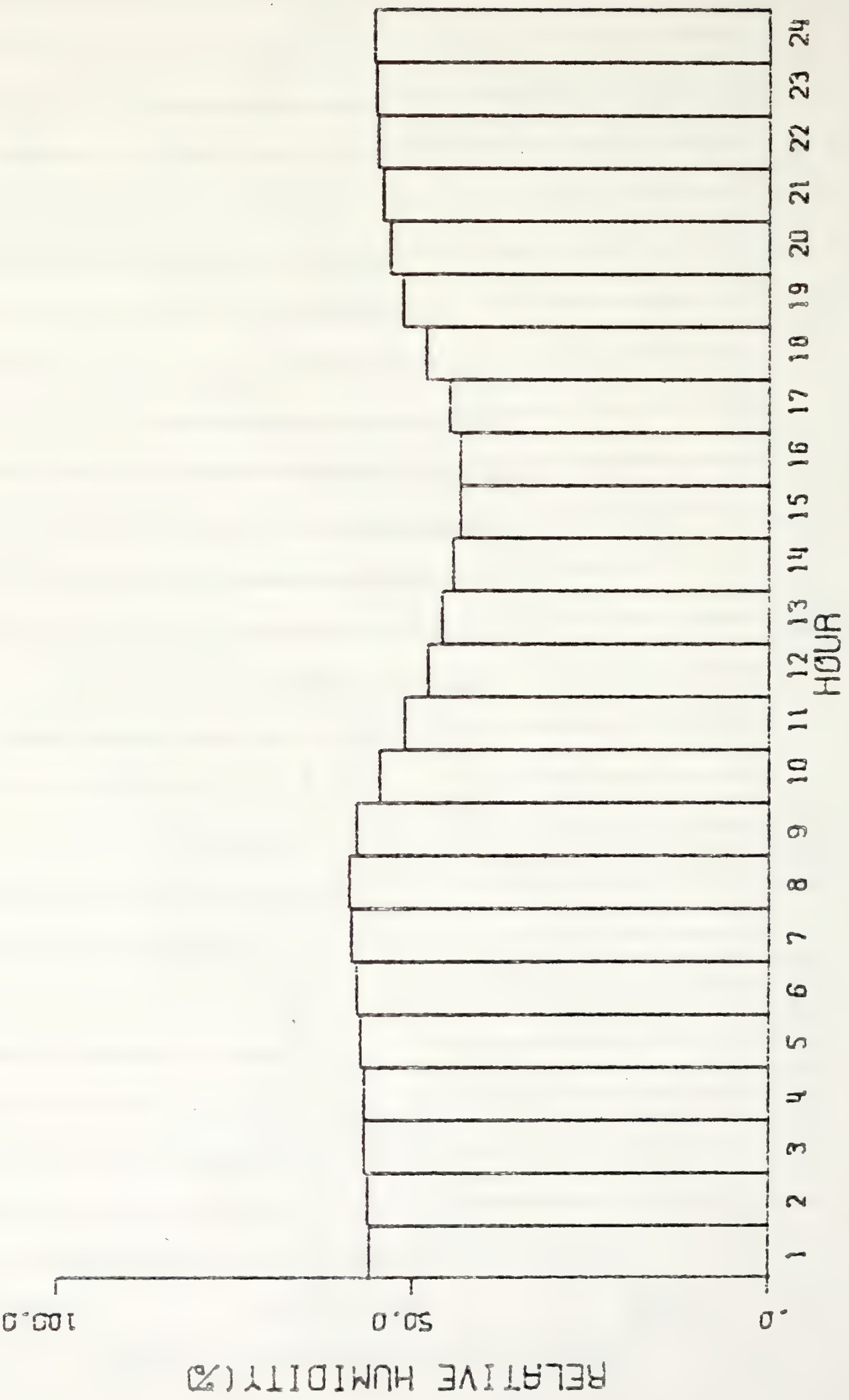
DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET
SITE - 23



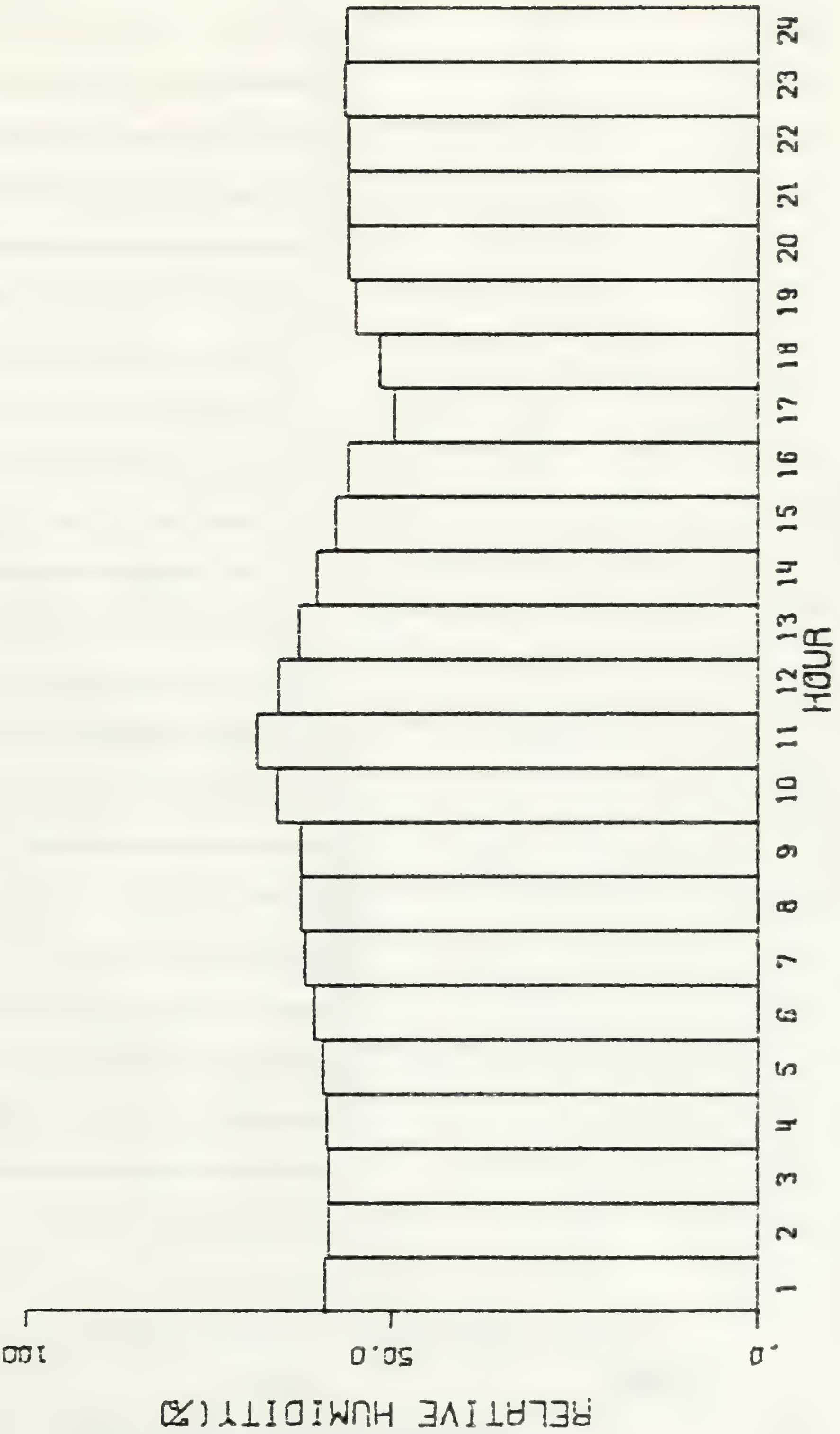
DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET
SITE - 23



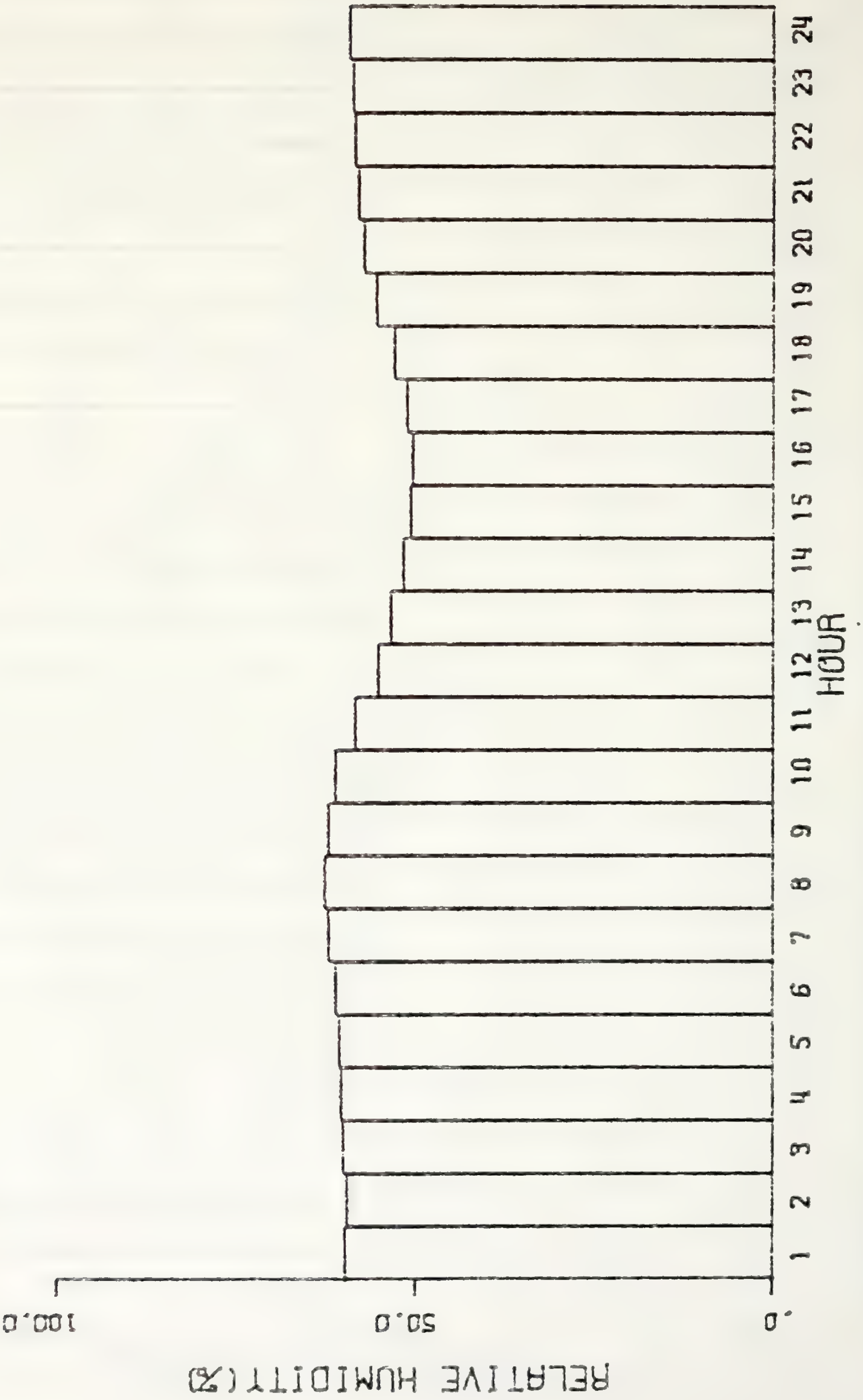
DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET
SITE - 23



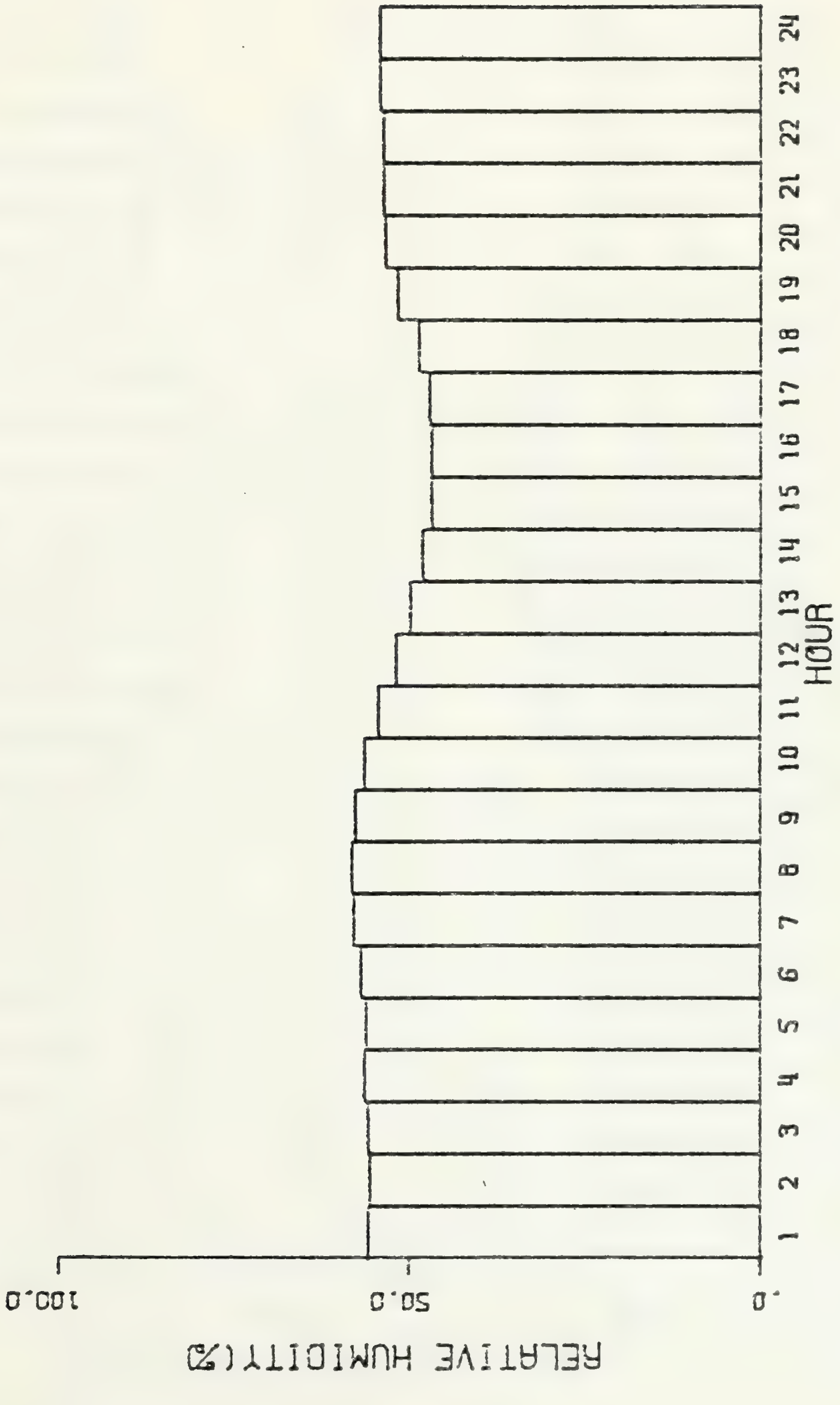
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET
SITE - 23



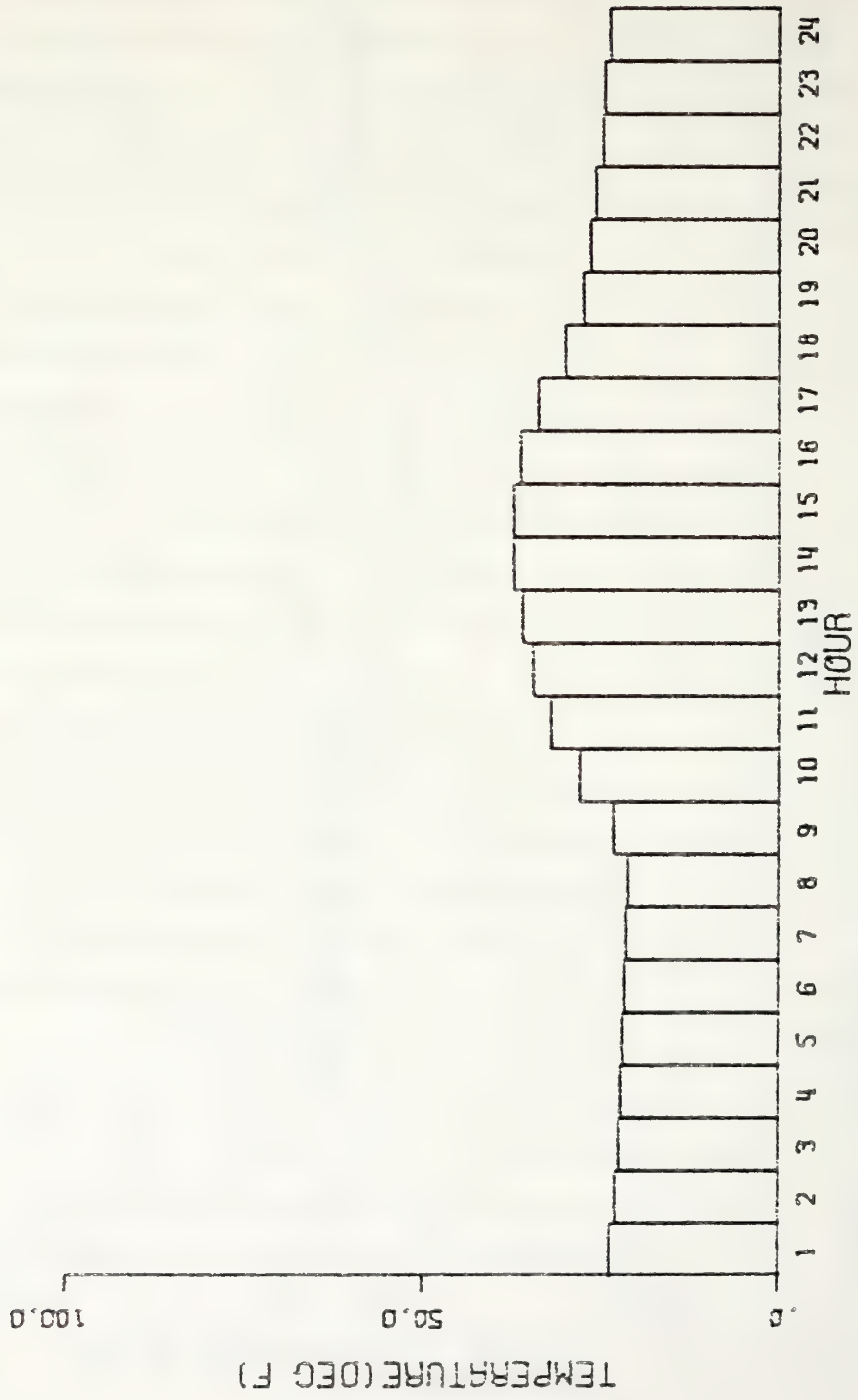
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET
SITE - 23



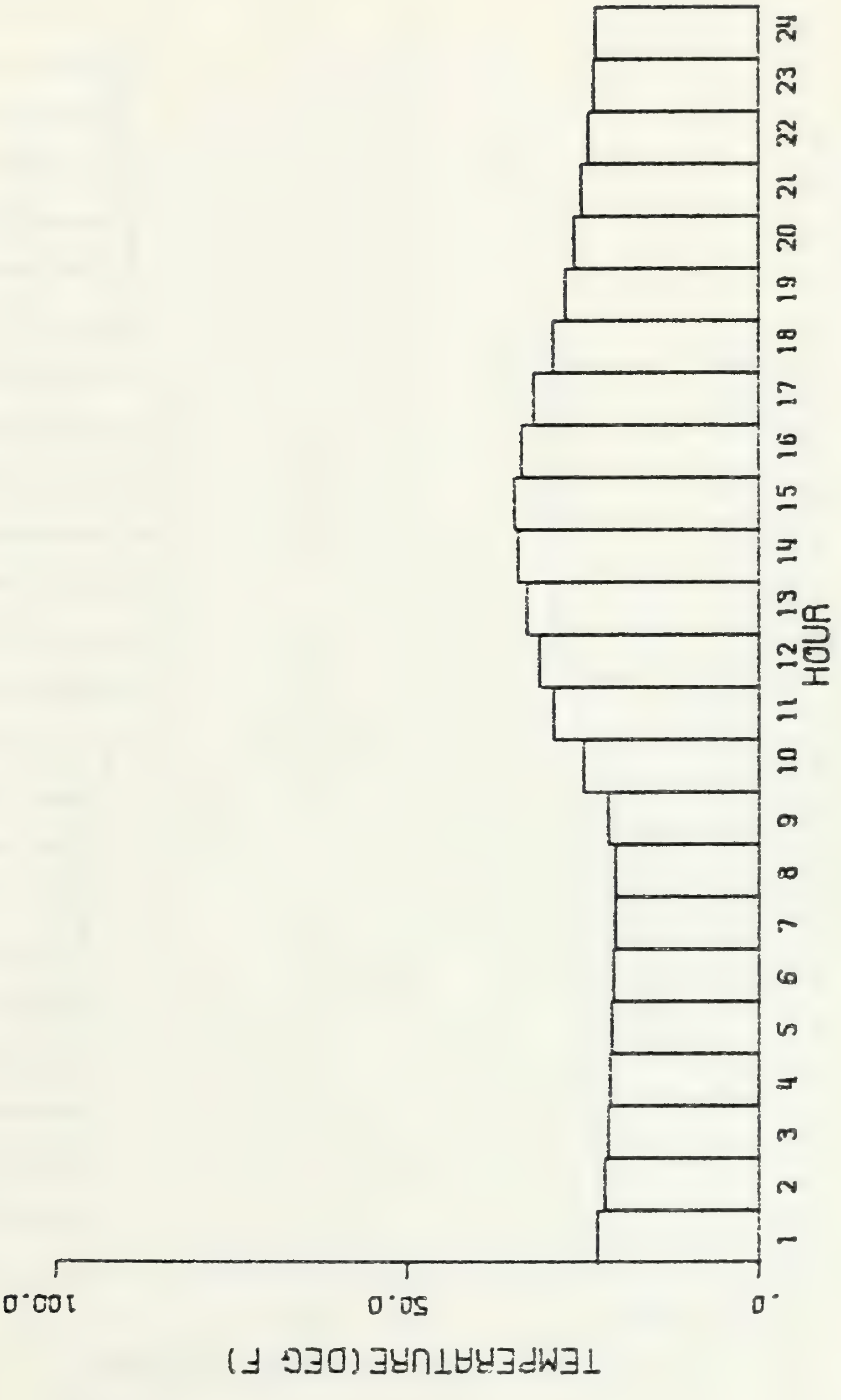
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET
SITE - 23



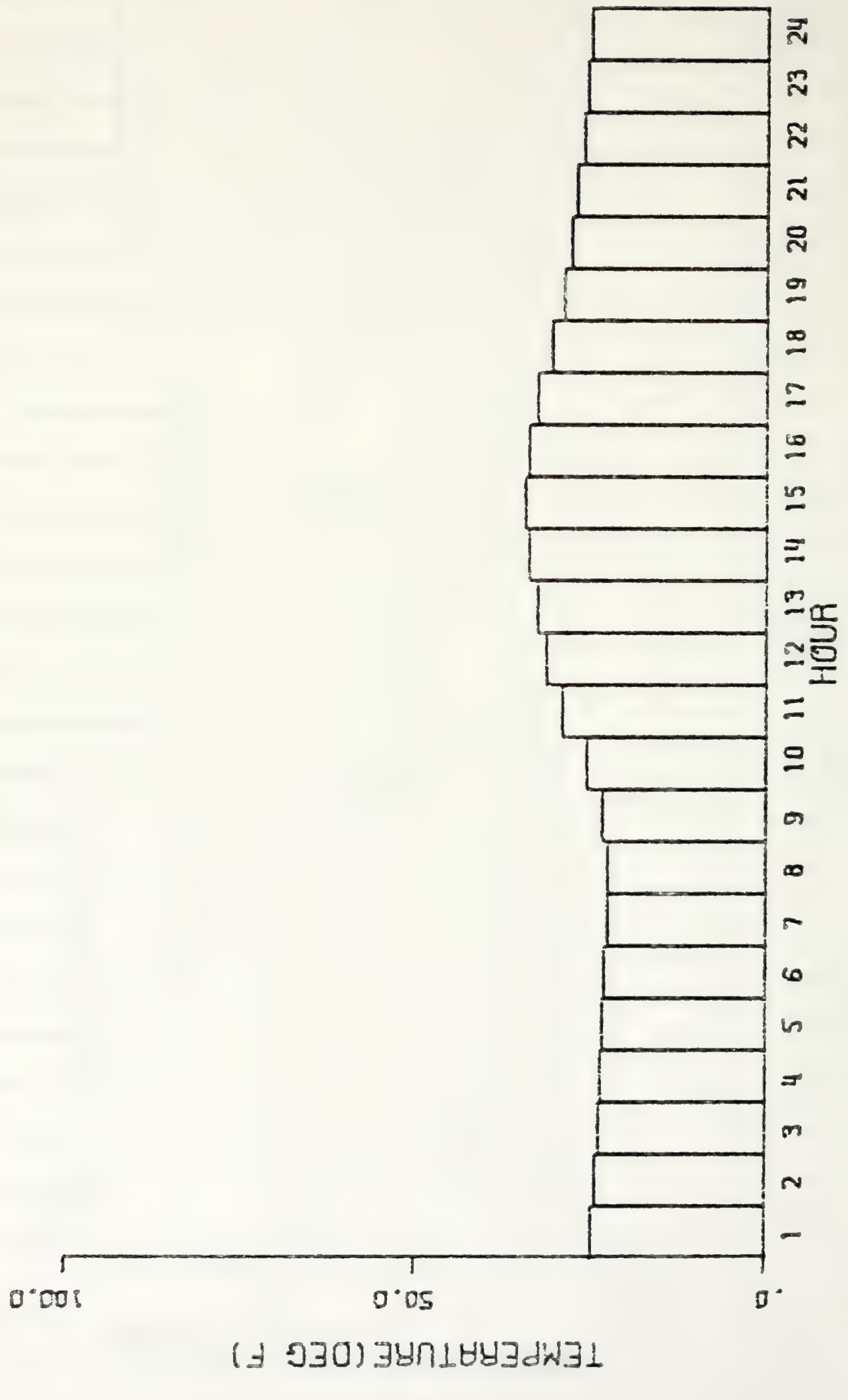
DIURNAL VARAITON OF RELATIVE HUMIDITY AT 200 FEET
SITE - 23



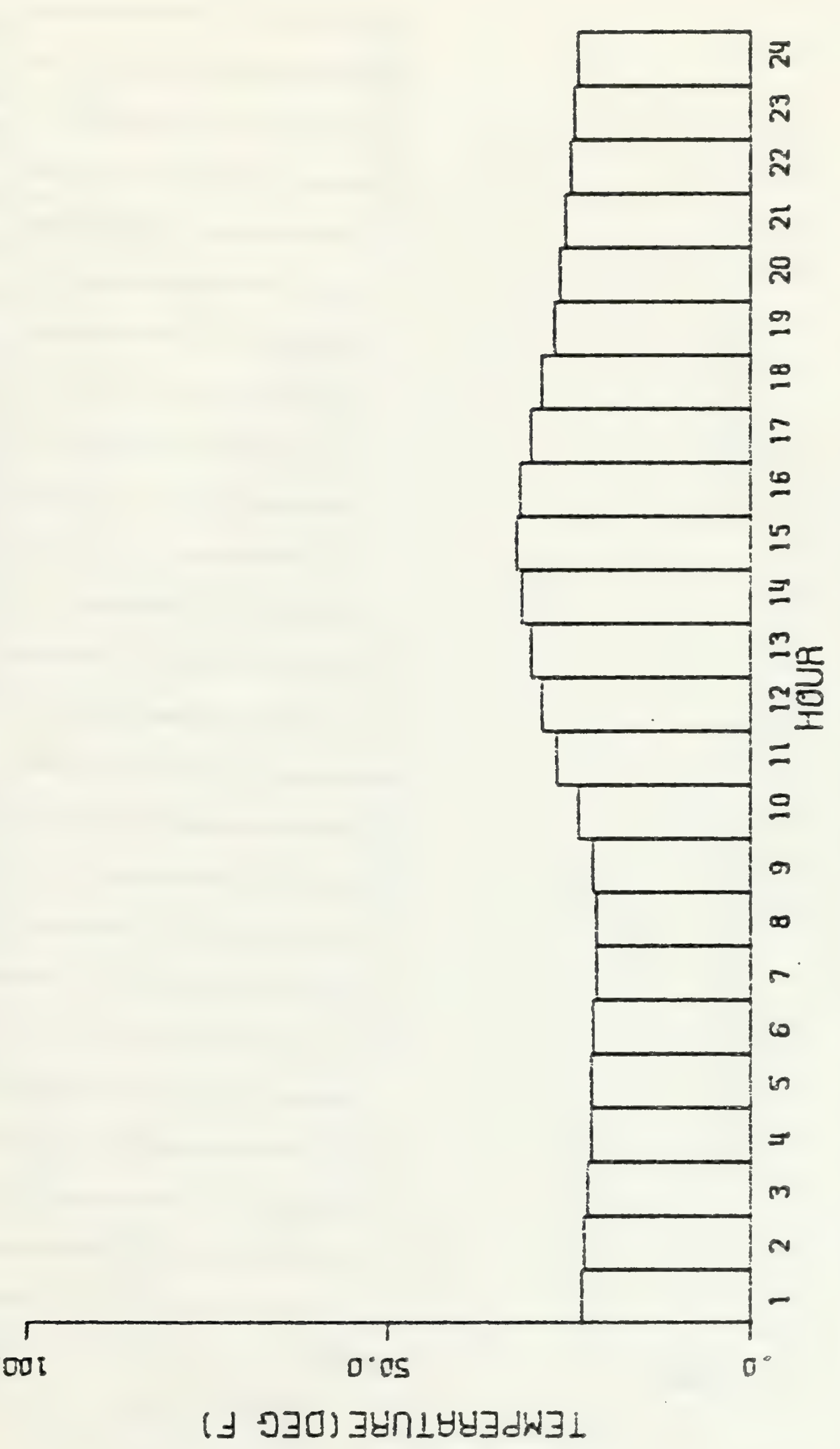
DIURNAL VARIATION OF TEMPERATURE AT 8 FEET (DEG F)
SITE - 23



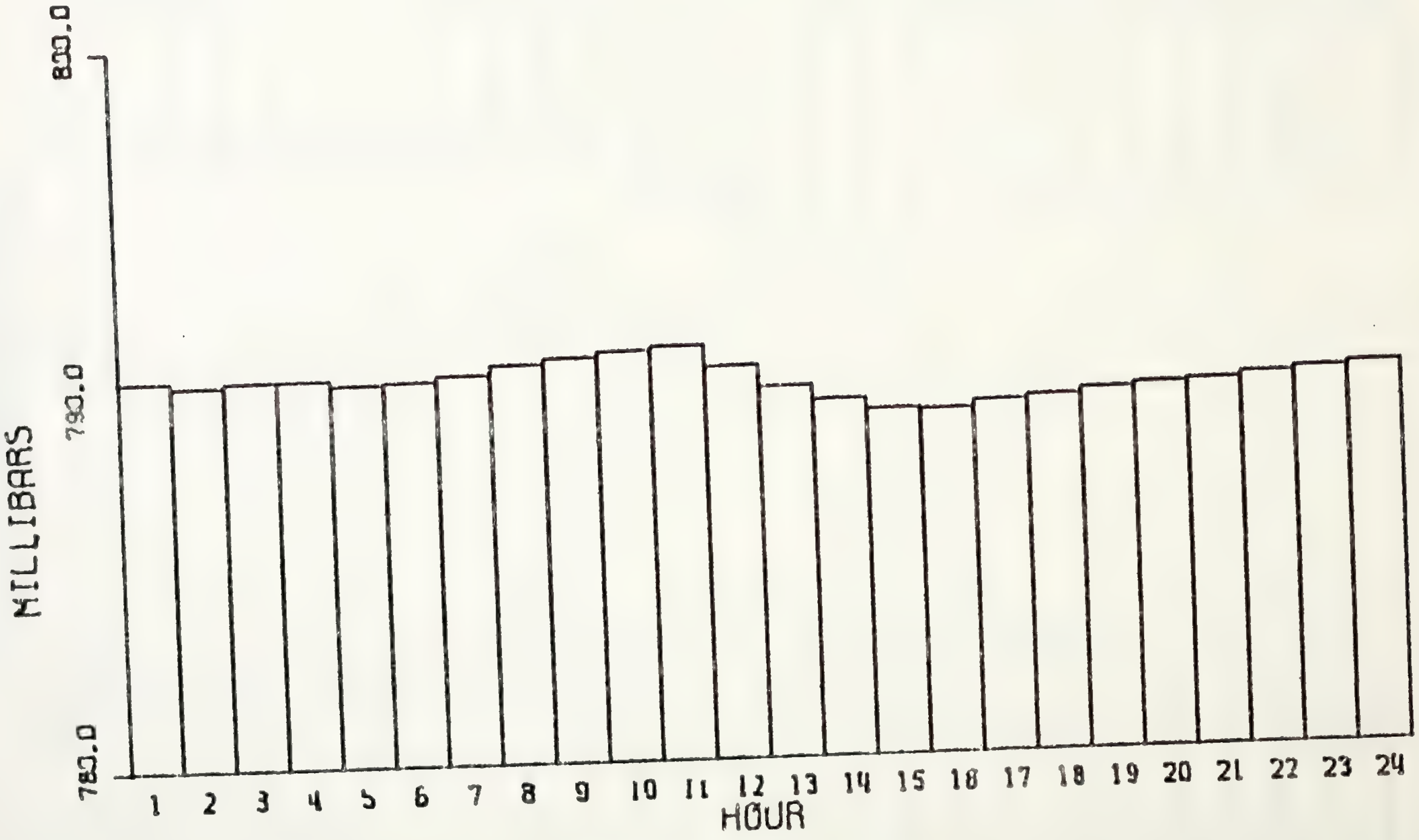
DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)
SITE - 23



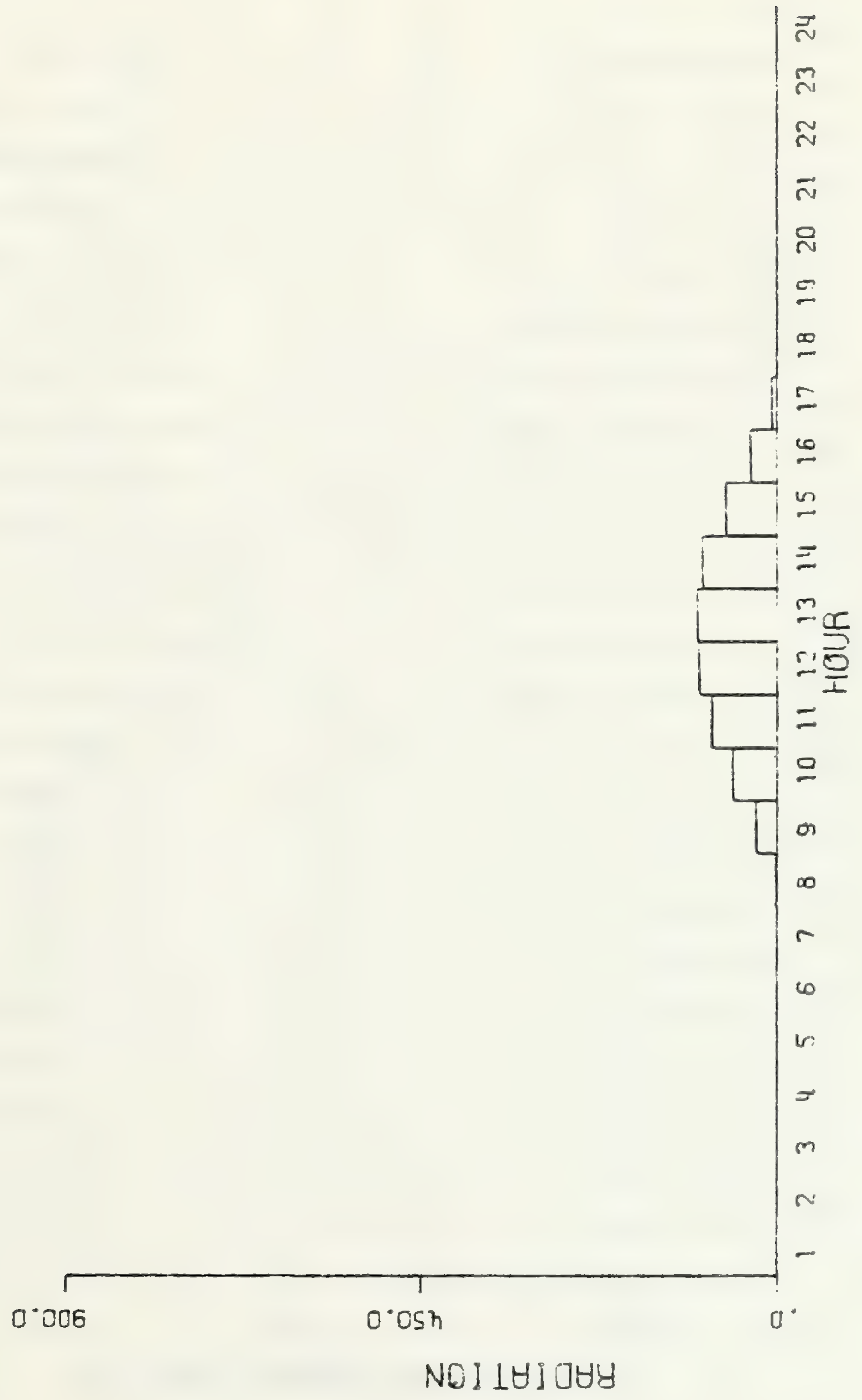
DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)
SITE - 23



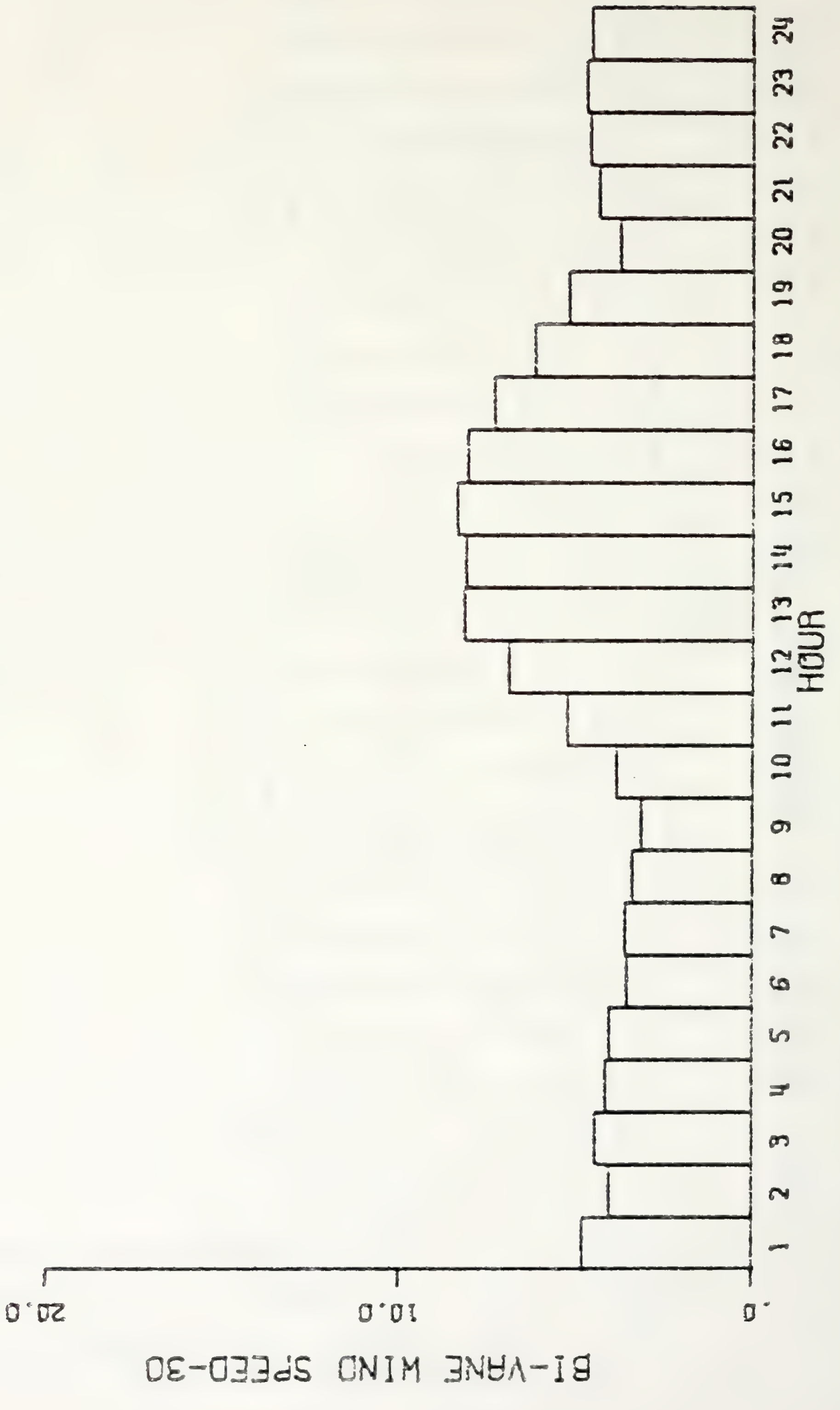
DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)
SITE - 23



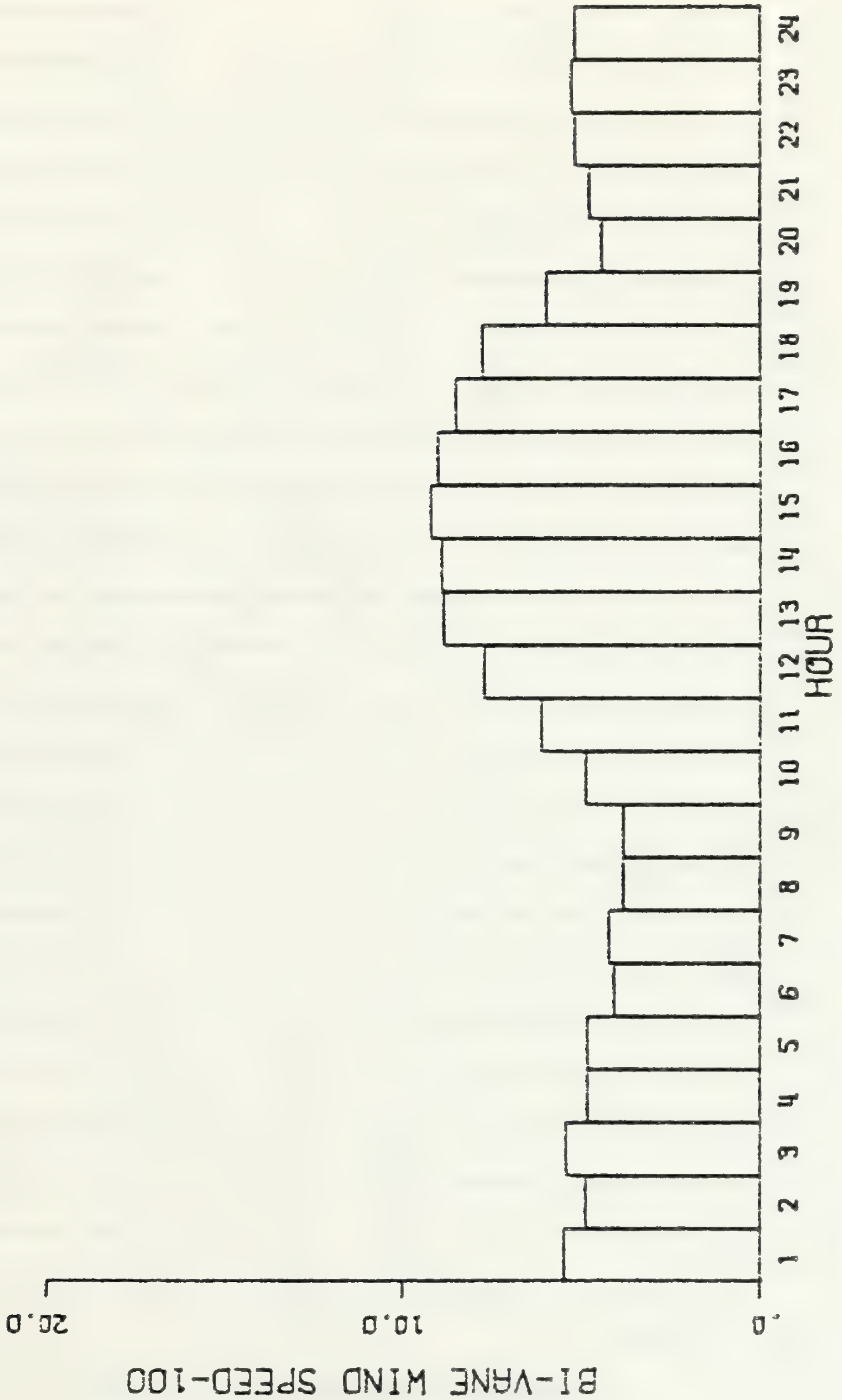
DIURNAL VARIATION OF BAROMETRIC PRESSURE
SITE - 23



HOURLY TOTAL SOLAR RADIATION(LANGLEY)
SITE - 23

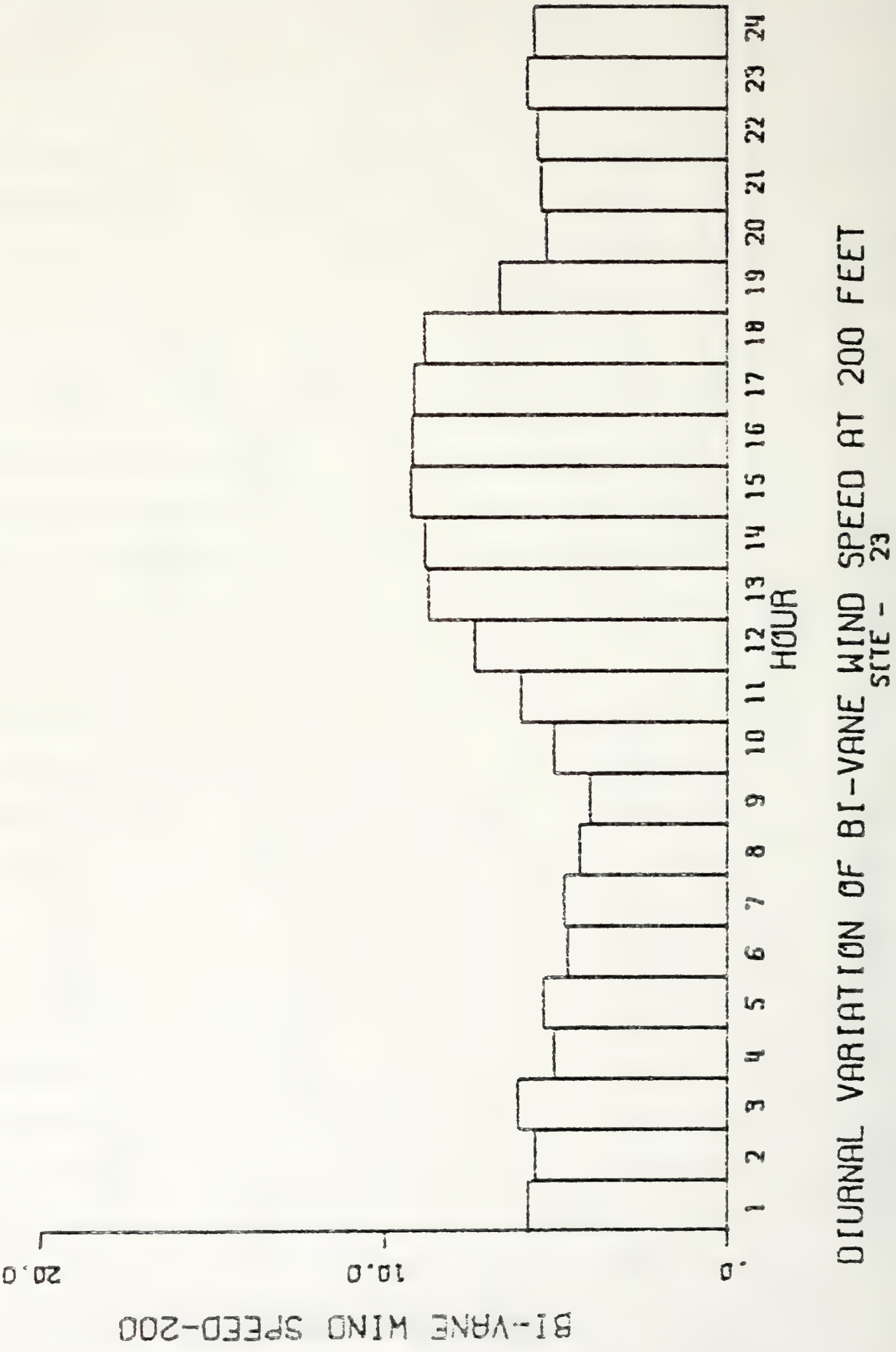


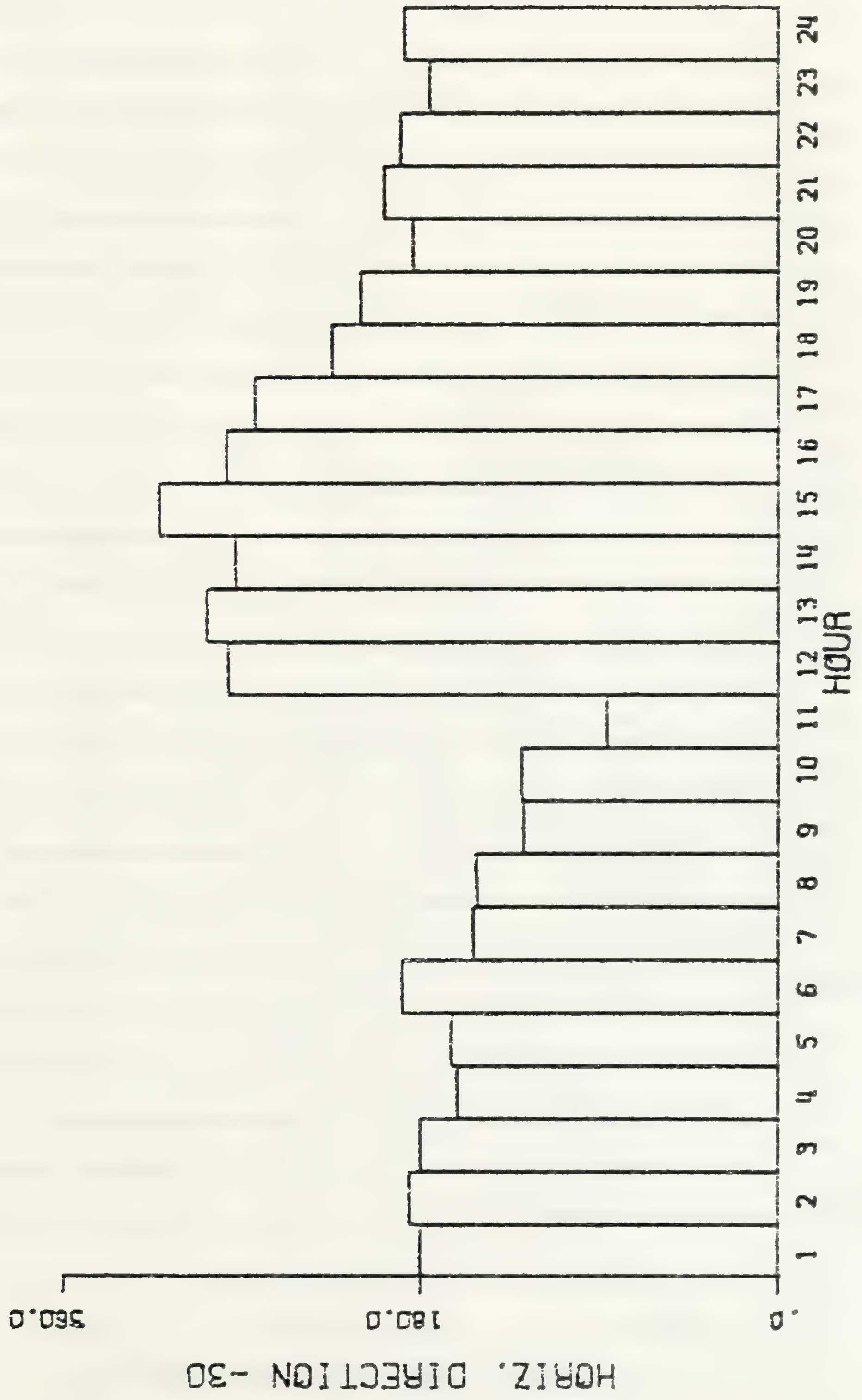
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET
SITE - 23



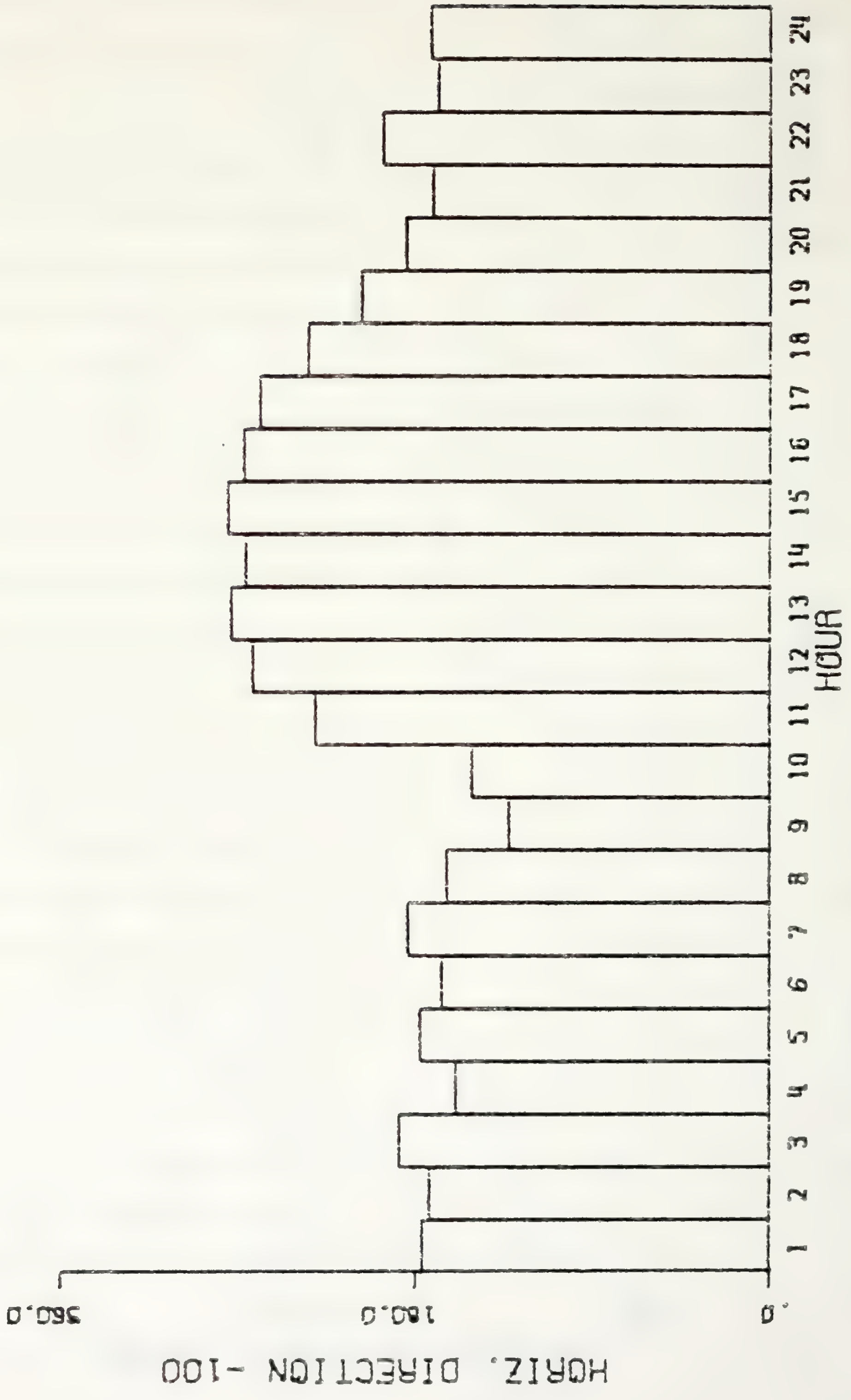
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET
SITE - 23

RADIAN
CORPORATION

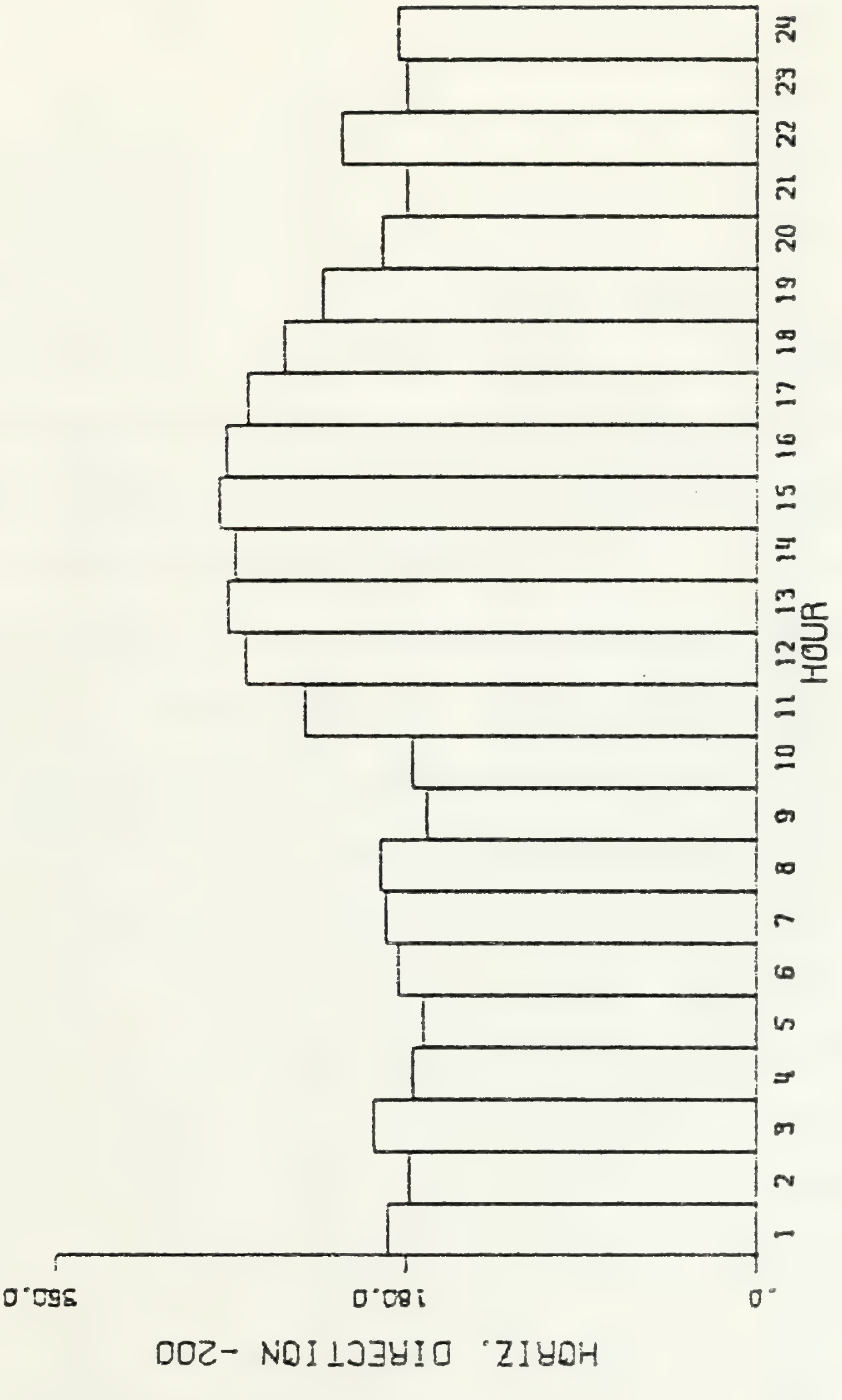




DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET
SITE - 23

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                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                STABILITY CLASS DETERMINATION USING PYRANOMETER RECORDING
                            PERIOD(12/ 1/76 TO 12/31/76)

                                            HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


12/ 1                                C   C   C   C   C   B   B   B   C   C
12/ 2                                C   C   B   C   C   C   C   C   D   D
12/ 3                                C   C   C   C   C   C   C   B   C   C
12/ 4                                C   C   C   B   B   D   D   D   D
12/ 5                                    C   C   D   D   D   D   D   D   D
12/ 6                                    C   C   C   C   C   C   C   C   D
12/ 7                                C   C   C   C   B   C   C   D   D   D
12/ 8                                C   C   C   D   D   D   D   D   D   D
12/ 9                                C   D   D   D   D   D   D   D   D   D
12/10                                    C   C   D   B   B   C   C   D   C
12/11                                C   C   C   C   C   B   B   C   C   C
12/12                                C   C   C   C   B   C   B   B   C   D
12/13                                C   C   C   C   D   C   D   C   D   D
12/14                                    C   C   C   C   B   B   B   C   C
12/15                                    C   C   B   C   C   C   C   C   D
12/16                                    C   C   B   B   B   B   C   C   C
12/17                                    C   C   C   B   B   B   C   C   C
12/18                                    C   C   C   C   C   C   D   D   C
12/19                                    C   C   C   C   C   C   C   D   D
12/20                                C   C   C   C   B   B   C   B   C   C
12/21                                    C   C   C   C   C   C   B   D   D
12/22                                C   C   C   B   B   C   C   D   C   C
12/23                                    C   C   D   D   D   C   C   D   C
12/24                                    D   C   D   D   D   D   D   D   D
12/25                                C   C   C   C   C   B   C   C   D   D
12/26                                    C   C   C   C   C   C   C   D   D
12/27                                    D   D   C   C   D   D   D   D   D
12/28                                    C   C   C   C   B   C       D   D
12/29                                    C   C   B   B   C   C   D   D   D
12/30                                    C   D   D   C   C   C   C   D   D
12/31                                    C   D   D   D   D   D   D   D   D

* NON-ZERO PYRANOMETER READING BUT STABILITY CLASS UNCERTAIN SINCE NIGHTTIME NET RADIATION INDEX IS REQUIRED
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CORPORATION

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              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
             STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                      PERIOD(12/ 1/76 TO 12/31/76)

                                     HOUR
        1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

12/ 1   D  D  D  E  E  E  F  F  F  A
12/ 2
12/ 3
12/ 4
12/ 5
12/ 6
12/ 7
12/ 8
12/ 9
12/10
12/11
12/12
12/13
12/14
12/15
12/16               E              E
12/17
12/18
12/19
12/20
12/21
12/22
12/23
12/24
12/25
12/26
12/27                                             D  C  E  E  E  E  F  E  F  F
12/28   F  F  F  F  F  F  F  F  F  E  A  A  A  B     B  D  F  F  F  F  F  F  F
12/29   F  F  F  E  F  F  F  F  F  C  B  A  B  B  B  B  D  D  F  F  F  F  F  F
12/30   F  F  F  F  E  E  E  E  E  C  B  B  B  B  B  B  C  D  E  E  E  E  E  F
12/31   F  F  F  F  F  F  E  D  D  C  B  B  D  D  D  D  C  D  D  D  D  D  E  E
```

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                       C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                     STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                PERIOD(12/ 1/76 TO 12/31/76)

                                   HOURLY WIND AND DIRECTION
                                      A STABILITY CLASS

                                          HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


12/ 1                                          0
                                             ENE
12/ 2

12/ 3

12/ 4

12/ 5

12/ 6

12/ 7

12/ 8

12/ 9

12/10

12/11

12/12

12/13

12/14

12/15

12/16
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                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                  STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                           PERIOD(12/ 1/76 TO 12/31/76)

                              HOURLY WIND AND DIRECTION
                                 A STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23

12/24

12/25

12/26

12/27

12/28                           2   2   3
                               SE WSW NNE
12/29                               3
                                   SW
12/30

12/31
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                       C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                      STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                PERIOD(12/ 1/76 TO 12/31/76)

                                  HOURLY WIND AND DIRECTION
                                     B STABILITY CLASS

                                           HOUR
       1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


12/ 1

12/ 2

12/ 3

12/ 4

12/ 5

12/ 6

12/ 7

12/ 8

12/ 9

12/10

12/11

12/12

12/13

12/14

12/15

12/16
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CORPORATION

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             C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                     PERIOD(12/ 1/76 TO 12/31/76)

                      HOURLY WIND AND DIRECTION
                         B STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23

12/24

12/25

12/26

12/27

12/28                                                          5      10
                                                             SSW     SSW
12/29                                              4       4   6   8  11
                                                   S     SSW   S SSW SSW
12/30                                              8   8   7   8   9   7
                                                 SSW WNW WNW  NW NNW  NW
12/31                                              8  11
                                                 SSW SSW
                         C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                       STABILITY CLASS DETERMINAITON USING DT/DZ (LEVEL 1)
                                  PERIOD(12/ 1/76 TO 12/31/76)

                                   HOURLY WIND AND DIRECTION
                                      C STABILITY CLASS

                                             HOUR
        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

12/ 1

12/ 2

12/ 3

12/ 4

12/ 5

12/ 6

12/ 7

12/ 8

12/ 9

12/10

12/11

12/12

12/13

12/14

12/15

12/16
```

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                      C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                    STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                             PERIOD(12/ 1/76 TO 12/31/76)

                              HOURLY WIND AND DIRECTION
                                 C STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23

12/24

12/25

12/26

12/27                                               12
                                                   NNW
12/28

12/29                              4
                                 ESE
12/30                              8                     7
                                 SSW                    NW
12/31                              6                    14
                                 SSW                    SW
                              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                          PERIOD(12/ 1/76 TO 12/31/76)

                                              HOURLY WIND AND DIRECTION
                                                 D STABILITY CLASS

                                                        HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

12/ 1    13   4   5
          N WNW WNW
12/ 2

12/ 3

12/ 4

12/ 5

12/ 6

12/ 7

12/ 8

12/ 9

12/10

12/11

12/12

12/13

12/14

12/15

12/16
```

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            C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                     PERIOD(12/ 1/76 TO 12/31/76)

                       HOURLY WIND AND DIRECTION
                          D STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23

12/24

12/25

12/26

12/27                                                            13
                                                                NNW
12/28                                                                     8
                                                                        SSW
12/29                                                                    12  16
                                                                        SSW SSW
12/30                                                                         5
                                                                            WNW
12/31                                 8   3              14  16  16  15       9  10   6   7   9
                                    SSW   S              SW  SW  SW  SW      SW SSW SSW SSW SSW
```

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                   C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                             PERIOD(12/ 1/76 TO 12/31/76)

                                HOURLY WIND AND DIRECTION
                                   E STABILITY CLASS

                                          HOUR
        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

12/ 1               8   9   4
                  WNW WNW  NW
12/ 2

12/ 3

12/ 4

12/ 5

12/ 6

12/ 7

12/ 8

12/ 9

12/10

12/11

12/12

12/13

12/14

12/15

12/16               0                   0
                    N                   N
```

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                             C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                     PERIOD(12/ 1/76 TO 12/31/76)

                                        HOURLY WIND AND DIRECTION
                                           E STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23

12/24

12/25

12/26

12/27                                                                    9   6   2   5       6
                                                                       NNW   N SSW   N     WNW
12/28                                        1
                                            SE
12/29                9
                   SSW
12/30                   12   6   8   6   2                                       2   0   1   1   0
                       SSW   S SSW SSW SSE                                      SW  NW WSW   W NNE
12/31                            5                                                               6  10
                               SSW                                                             SSW SSW
```

```
                     C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                   STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                              PERIOD(12/ 1/76 TO 12/31/76)

                                HOURLY WIND AND DIRECTION
                                   F STABILITY CLASS

                                          HOUR
        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


12/ 1                               3   3   1
                                   SW SSW   S
12/ 2

12/ 3

12/ 4

12/ 5

12/ 6

12/ 7

12/ 8

12/ 9

12/10

12/11

12/12

12/13

12/14

12/15

12/16
```

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                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                  STABILITY CLASS DETERMINATION USING DT/07 (LEVEL 1)
                             PERIOD(12/ 1/76 TO 12/31/76)

                               HOURLY WIND AND DIRECTION
                                  F STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23

12/24

12/25

12/26

12/27                                                                                      6       4   2
                                                                                          NW     WSW  SW
12/28    5   6   5   2   1   1   0   0   3                                   8   3   3   2   2   2   3
        SW  SW  SW  SW WNW  SE ESE   S SSE                                 SSW   S SSW ESE  SE ESE  SE
12/29    4   4   7       5   2   3   3   3                                       4   3   4   3   3   3
        SE   S   S       S   S   S SSE  SE                                      SE  SE SSE  SE SSE SSE
12/30    3   5   6   4                                                                               0
       SSE   S   S SSE                                                                             ENE
12/31    3   1   1   1   1   4
       ESE   S   E ENE ESE   S
```

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(12/ 1/76 TO 12/31/76)

HOUR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
12/ 1										A	A	A	A	A	A	A	A	D	E	E	E	F	F	F
12/ 2	F	F	F	F	F	F	F	F	F	D	A	B	B	B	B	B	B	E	E	E	E	F	F	F
12/ 3	F	E	E	E	E	F	E	E	E	D	B	A	A	A	A	A	C	E	F	F	E	E	E	E
12/ 4	E	F	F	F	F	F	E	F	E	A	A	B	B	B	B	B	A	B	B	C	D	D	D	D
12/ 5	D	E	D	C	B	A	C	D	A	A	B	B	B	C	B	B	B	D	D	D	E	E	E	F
12/ 6	F	E	E	E	D	E	E	E	D	A	A	A	A	A	A	A	B	E	F	F	E	C	D	B
12/ 7	C	C	D	B	B	D	D	E	D	A	A	A	B	B	B	B	B	B	B	A	A	C	C	D
12/ 8	D	D	D	D	E	E	E	E	E	B	C	C	C	D	C	B	B	B	C	D	D	D	D	D
12/ 9	D	C	D	D	D	D	D	C	B	C	D	D	C	D	D	C	C	B	B	C	D	D	B	B
12/10	B	B	B	B	B	B	C	C	A	A	B	A	A	B	B	B	A	D	E	E	F	F	E	F
12/11	F	F	F	E	F	F	F	E	E	A	A	B	A	A	A	A	A	D	D	D	D	F	F	F
12/12	F	F	E	E	F	F	F	F	E	E	A	A	B	A	A	B	B	E	E	E	E	F	F	F
12/13	E	F	E	E	F	F	F	E	E	B	B	C	C	C	B	B	B	D	E	E	E	E	E	F
12/14	F	E	F	F	E	E	E	F	F	D	A	A	A	A	A	B	A	D	E	E	F	E	E	F
12/15	E	F	F	E	F	F	E	E	E	C	A	B	B	B	B	A	B	E	D	E	F	F	F	F
12/16	F	F	F	F	F	F	F	E	F	E	C	B	A	A	A	D	D	E	D	D	D	E	E	E
12/17	E	E	E	F	F	F	F	F	F	E	D	A	A	A	A	A	D	D	D	E	F	F	F	F
12/18	F	F	F	F	F	F	F	E	F	D	A	B	B	B	B	B	D	D	F	D	E	E	E	E
12/19	E	F	F	F	F	E	E	F	F	E	B	B	B	B	B	B	B	D	D	E	E	E	E	E
12/20	E	E	E	F	F	F	F	F	F	E	A	A	A	A	A	A	A	E	E	E	E	F	F	F
12/21	F	E	E	E	E	F	E	F	F	B	B	B	B	B	A	B	B	E	D	D	E	E	F	F
12/22	E	F	F	F	F	F	F	F	F	E	A	A	B	B	B	B	B	D	D	D	E	E	F	F
12/23	E	D	E	E	F	F	F	E	F	D	B	C	C	B	B	B	A	A	C	C	D	C	C	D
12/24	C	C	C	C	D	C	D	E	B	A	B	B	B	B	B	B	C	B	B	B	D	D	D	D
12/25	F	F	E	E	F	F	F	E	E	D	A	A	A	A	B	B	B	D	D	E	D	D	D	E
12/26	E	E	D	E	E	E	E	E	E	A	B	B	B	B	B	C	C	D	D	D	E	E	D	D
12/27	B	B	B	B	C	B	B	C	D	C	B	B	D	D	D	C	B	D	D	B	D	D	E	E
12/28	E	F	E	E	E	E	E	F	F	D	A	A	A	B		B	B	E	E	E	F	F	E	E
12/29	F	F	E	E	E	E	E	F	E	A	B	A	B	B	B	B	C	D	D	E	E	E	E	D
12/30	D	D	E	E	D	D	D	D	D	B	B	B	B	B	B	B	B	B	B	A	C	C	D	E
12/31	F	F	F	F	E	D	B	B	A	B	B	B	D	D	D	D	C	B	B	B	B	B	B	C

```
                        C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                      STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                 PERIOD(12/ 1/76 TO 12/31/76)

                                   HOURLY WIND AND DIRECTION
                                       A STABILITY CLASS

                                                HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

12/ 1                                          0   2   3   3   3   3   3   2
                                              NE   E ESE NNE NNE   N NNE WNW
12/ 2                                              2
                                                   N
12/ 3                                                  3   2   1   4   4
                                                      SW   W   E   N   N
12/ 4                                          3   2                       6
                                               E NNE                      SW
12/ 5                          2           3   4
                               W         WNW  NW
12/ 6                                          1   1   4   5   4   2   2
                                             WNW  NW NNE  NE NNE ENE   S
12/ 7                                          2   4   4                                   5   6
                                             SSE  SW  SW                                   S   S
12/ 8

12/ 9

12/10                                      2   3       3   3                   4
                                           W WNW      NW   W                   N
12/11                                          1   2       3   2   2   1   1
                                             SSW  NW     WNW WNW   W   S  NW
12/12                                              1   3       4   3
                                                 ESE  NW      NW  NW
12/13

12/14                                              1   2   3   3   4       3
                                                  NE   N NNW  NW NNW       N
12/15                                              2                   3
                                                 NNW                  NW
12/16                                                      3   3   3
                                                           N   N   N
```

```
                             C*B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                      PERIOD(12/ 1/76 TO 12/31/76)

                                        HOURLY WIND AND DIRECTION
                                            A STABILITY CLASS

12/17                                                2   2   2   2   2
                                                    NW  NW WNW  NW  NW
12/18                                            3
                                               SSW
12/19

12/20                                            2   3   3   2   3   2   2
                                                NE NNW WNW NNE NNE NNW WNW
12/21                                                            4
                                                                SW
12/22                                            4   3
                                                 E ENE
12/23                                                                    5   7
                                                                       SSW   S
12/24                                        5
                                           WNW
12/25                                            2   2   2   2
                                                SW ENE  NE   E
12/26                                        5
                                             S
12/27

12/28                                            1   2   3
                                                 S SSW NNW
12/29                                        4       3
                                            SE      SW
12/30                                                                                1
                                                                                   NNW
12/31                                    5
                                       SSW
```

```
                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                        PERIOD(12/ 1/76 TO 12/31/76)

                         HOURLY WIND AND DIRECTION
                             B STABILITY CLASS

                                              HOUR
        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

12/ 1
12/ 2                                               6   8   9  11  12  14
                                                  WSW  SW  SW SSW SSW SSW
12/ 3                                           2
                                               SE
12/ 4                                               4  10   8   7   8       9  14
                                                   NW  SW SSW   S SSW     SSW SSW
12/ 5                  2                       6   9   9      10   9   8
                      NNE                     NNW NNW NNW     NNW NNW NNW
12/ 6                                                                   5                         15
                                                                        S                        SSW
12/ 7              7   2                               6   9  11  11  14  14  13
                    S SSE                             SW  SW SSW SSW   S SSW SSW
12/ 8                                       9                      11   9   4
                                            S                     SSW   S SSE
12/ 9                                   7                                   8   5               9  12
                                      SSE                                   W  NW              NW NNW
12/10  13  11   9   8   8   7                   5           5   5   9
      NNW NNW  NW  NW  NW  NW                  NW           N NNW NNW
12/11                                               3
                                                  WNW
12/12                                                   4           4   6
                                                       NW          NW WNW
12/13                                       8  12              10   8   5
                                            S SSW              SW  SW   S
12/14                                                                   4
                                                                        N
12/15                                               6   8   7   6       6
                                                   NW  NW   N   N      NW
12/16                                               2
                                                   NE
```

```
          C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
     STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
               PERIOD(12/ 1/76 TO 12/31/76)

                 HOURLY WIND AND DIRECTION
                    B STABILITY CLASS

12/17

12/18                                               8   7   7   9   5
                                                   SW  SW  SW  SW WNW
12/19                                           4   6   7   9   9  11  11
                                              WNW WNW WNW NNW   N NNE NNE
12/20

12/21                                       4   7   7   7   4       6   8
                                            S SSW SSW  SW SSW      SW  SW
12/22                                                   6   8   5   5   3
                                                        N   N NNW NNW  NE
12/23                                           8           6  12   7
                                              SSW          SW  SW SSW
12/24                                   7       7   4   9   7   5   9      10   6   5
                                        W      NW NNW  NW   N   N   N       N  NW WNW
12/25                                                           4   9  12
                                                              SSW  SW SSW
12/26                                           5  10   7   7  10
                                              SSW  SW SSW  SW SSW
12/27   6  11  13  10      17  13              10  11                  10           6
        S   S SSW   S     SSW SSW              SW WNW                 NNW         NNE
12/28                                                       5      11  10
                                                           SW     SSW SSW
12/29                                           4       5   6   8  12
                                              SSW     SSW   S  SW SSW
12/30                                       9   9   7   7   8   9   7   7   6   3
                                           SW  SW WNW WNW  NW NNW  NW  NW WNW WSW
12/31                           6  10       7   9  12                      11  13   8   9  12   9
                              SSW SSW     SSW  SW  SW                      SW SSW SSW SSW SSW  SW
               C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
             STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                        PERIOD(12/ 1/76 TO 12/31/76)

                          HOURLY WIND AND DIRECTION
                             C STABILITY CLASS

                                          HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

12/ 1

12/ 2

12/ 3                                                                      4
                                                                         WNW
12/ 4                                                                                 10
                                                                                       S
12/ 5                  5           2                          12
                      NW         SSW                         NNW
12/ 6                                                                                         12
                                                                                               S
12/ 7     16  14                                                                               5  15
         SSW   S                                                                               S SSW
12/ 8                                         13  14  14      14              4
                                               S SSW SSW     SSW              S
12/ 9          7                       3      15          14          15  15          8
             SSW                     SSE     SSW         WSW         WSW  SW         NW
12/10                              6   5
                                  NW  NW
12/11

12/12

12/13                                             13  12  12
                                                 SSW  SW  SW
12/14

12/15                                      1
                                         SSW
12/16                                          2
                                             ENE
```

```
              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                      PERIOD(12/ 1/76 TO 12/31/76)

                        HOURLY WIND AND DIRECTION
                           C STABILITY CLASS

12/17

12/18

12/19

12/20

12/21

12/22

12/23                                               13  12                       17  18      18  15
                                                   SSW SSW                      SSW  SW     SSW SSW
12/24   17  13  15  10       5                                          12
       SSW SSW SSW SSW      SW                                           N
12/25

12/26                                                               15  15
                                                                   SSW SSW
12/27                       10          16      15                  13
                           SSW         SSW      SW                 NNW
12/28

12/29                                                                   14
                                                                       SSW
12/30                                                                                   1   0
                                                                                      WNW  NW
12/31                                                                   16                          13
                                                                        SW                         SSW
                           C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                         STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                  PERIOD(12/ 1/76 TO 12/31/76)

                                     HOURLY WIND AND DIRECTION
                                        D STABILITY CLASS

                                                 HOUR
             1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24

12/ 1                                                                                             3
                                                                                                  S
12/ 2                                                  4
                                                     ESE
12/ 3                                                  3
                                                     SSE
12/ 4                                                                                                              4    4    5    5
                                                                                                                 WNW   NW  WSW  WSW
12/ 5        2         7                        2                                                 5    2    1
            NW        NW                      WSW                                                 N    N   NE
12/ 6                           1                   0                                                                   6
                               SE                   S                                                                   S
12/ 7                 11              3    6        6                                                                        13
                       S              S  SSW        S                                                                       SSW
12/ 8        8    8   13    8                                            14                            5   16   29   30    9
           SSW  SSW  SSW  SSW                                           SSW                            S  SSW  SSW    S    S
12/ 9       12        18   14   25   19   13                  21   15        16   17                        4    6
             S         S    S    S    S    S                 SSW   SW        SW   SW                      NNW   NW
12/10                                                                                             3
                                                                                                 NE
12/11                                                                                             2    6    3    1
                                                                                                  N    W    W  SSW
12/12

12/13                                                                                             7
                                                                                                  S
12/14                                                  2                                          2
                                                     ESE                                         NE
12/15                                                                                                  0
                                                                                                      NE
12/16                                                                                   4    1         3    1    0
                                                                                      NNW    N       WNW    W   NE
```

```
                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                             PERIOD(12/ 1/76 TO 12/31/76)

                              HOURLY WIND AND DIRECTION
                                 D STABILITY CLASS

12/17                                            0                       2   2   0
                                               NNE                       W WNW ESE
12/18                                        1                           2   0       1
                                           ENE                         NNW  SW     SSW
12/19                                                                        6   2
                                                                           NNE WSW
12/20
12/21                                                                            2   1
                                                                                SW   E
12/22                                                                        4   3   1
                                                                           NNW WNW  SE
12/23        2                               5                                          22          17
           SSE                             SSW                                         SSW         SSW
12/24                    4       6                                                       3   2   1   0
                        SW       W                                                     NNW NNE   E SSE
12/25                                        2                              11   8       7   9   9
                                             S                             SSW SSW       S SSW SSE
12/26            7                                                          14   6   5           5   7
                 S                                                         SSW   S   S           S  SE
12/27                                   17              23  21  15           7   3       8   8
                                        SW             WNW WNW  NW           N ENE     NNW  NW
12/28                                        2
                                             S
12/29                                                                       19   5                   4
                                                                           SSW   S                 SSW
12/30    5   8          16  10  10  10   3                                                       0
       SSW SSW         SSW SSW SSW SSW SSW                                                      NE
12/31                        5                          14  17  17  17
                           SSW                          SW  SW  SW  SW
```

```
                              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                       PERIOD(12/ 1/76 TO 12/31/76)

                                         HOURLY WIND AND DIRECTION
                                           E STABILITY CLASS

                                                  HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


12/ 1                                                                            1   3   7
                                                                                SW  SE   S
12/ 2                                                                       15   5   2   2
                                                                           SSW  SE  SE SSE
12/ 3         4   2   3   6   2   3   4   3                                 10           1   1   3   2
              S   S SSE SSW SSE ESE   S SSW                                 SW          NW NNW WSW  SW
12/ 4     1                       4       3
         SE                       S      SE
12/ 5         3                                                                          2   2   0
             NW                                                                        WNW WNW   S
12/ 6         2   0   2       1   1   1                                      9           11
             SE  NW ENE     ESE   W  SW                                      S          SSW
12/ 7                                 3
                                      S
12/ 8                     4   4   6   6   3
                          S SSW SSW SSW SSW
12/ 9

12/10                                                                            1   2           2
                                                                                 E SSE           E
12/11                 1                   1   1
                    SSW                  NE  SE
12/12             2   0                   0   1                             4   2   2   1
                WSW   E                  SE  SW                           WNW WNW  SW  SE
12/13     2       0   2               1   5                                      8   6   6   1   2
         SE     NNW  SE             SSE   S                                      S   S   S  SW SSW
12/14         4           2   2   1                                              3   1       1   0
            SSW          SW SSW   E                                              W  SE       N ENE
12/15     2           3           2   1   1                                 4       1
        WSW          SE           W WNW  NW                               NNW      SW
12/16                                 1       0                             3               0   0   1
                                      W       E                             W             NNE NNE  NW
                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                             PERIOD(12/ 1/76 TO 12/31/76)

                                HOURLY WIND AND DIRECTION
                                   E STABILITY CLASS

12/17     2    0    0                                  0                                                 0
          W  WSW  NNE                                NNW                                                 N
12/18                                       3                                                      3         1    0    0    1
                                          SSE                                                    SSW         S    S   NW    W
12/19     0                        1    0              5                                                 2    3    3    4    1
        NNE                      WSW  WSW            NNW                                               NNW  NNE   NW  WNW    W
12/20     0    0    0                                  2                                       2    3    0    2
        SSW  SSE  WNW                                ESE                                       W  WSW   SW  SSE
12/21          3    2    2    5         3                                                     10              0    0
             SSE   SE   SE  SSE         E                                                     SW              E  SSW
12/22     2                                            4                                                          1    1
        ESE                                          ESE                                                        ESE    S
12/23     3         2    1                  4
        SSW       SSE    S                  S
12/24                                       4
                                           NW
12/25               1    0                  2    3                                                   9                   9
                    S    S                SSW    S                                                 SSW                   S
12/26     7   11         4    7    4    4    5    3                                                       5    7
        SSW  SSW         S  SSE  SSE    S  SSW  SSW                                                     SSE  SSE
12/27                                                                                                                5    3
                                                                                                                     W    W
12/28     4         6    4    2    1    1                                                     11    7    8              2    3
        WSW       WSW  WSW    W   SE   SE                                                    SSW  SSW  SSW            SSW  SSE
12/29               9   13   10    6    6         4                                                      3    4    3    4
                  SSW  SSW  SSW  SSW  SSW         S                                                      S    S    S  SSW
12/30               9    6                                                                                               0
                  SSW    S                                                                                               E
12/31                         1
                            SSW
```

```
                                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                               PERIOD(12/ 1/76 TO 12/31/76)

                                                 HOURLY WIND AND DIRECTION
                                                      F STABILITY CLASS

                                                           HOUR
            1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24


12/ 1                                                                                                                  2    1    1
                                                                                                                      SW  ESE  NNE
12/ 2       1    3    3    0    2    2    0    0    2                                                                 2    3    2
          ENE   SE  SSW  NNW  ESE  SSE    S    N  NNE                                                                SE    S    S
12/ 3       3                                                                                         3    1
            S                                                                                       SSW    N
12/ 4            0    0    0    1    0         4
               SSE    W  SSW  SSW  NNW        SE
12/ 5                                                                                                                            2
                                                                                                                                 S
12/ 6       2                                                                                        11   10
          WNW                                                                                       SSW  SSW
12/ 7

12/ 8

12/ 9

12/10                                                                                                       1    1         2
                                                                                                           SE    W       ESE
12/11       1    2    1         0    2    2                                                                    3    3    2
            E  ESE  WNW        NE   SW   SW                                                                  ESE  ESE  ESE
12/12       1    4              0    2    1    1                                                               2    1    1
          ESE  WNW             NE    E  SSW   SW                                                               S   SW  SSE
12/13            1              5    4    4                                                                                6
               SSW            SSE  SSE  SSE                                                                                S
12/14       9         2    2                   1    2                                                       1              2
          SSW       SSE  SSE                  SW  NNE                                                      SE            WNW
12/15            3    5         1    2                                                                      1    2    2    2
               SSW    S         S    E                                                                     SE   NE    E  ESE
12/16       0    2    3    1    1    1    2         2
           SW  SSE  SSW  ENE   SE  ENE  WNW       ESE
```

```
                     C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                   STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                              PERIOD(12/ 1/76 TO 12/31/76)

                                HOURLY WIND AND DIRECTION
                                   F STABILITY CLASS

12/17                  0   0   1   1   1   0                                               0   0   3   2
                       N   E ESE WNW   E   E                                             NNE WNW ENE SSE
12/18      2   6   8   5   2   1   5       3
         SSW SSW   S SSE   S SSE SSE     ESE
12/19          2   2   2   2           1   2
               E ESE  SW WSW         NNE ENE
12/20                  1   1   0   0   0   1                                                   1   2   1
                       E  SE WSW  NW NNW   S                                                  SE  SE SSE
12/21      2                   2       6   1                                                       2   1
          SE                 SSW     SSE  SE                                                       W WSW
12/22          2   1   2   1   0   0   1   1                                                       1   2
             ESE  SE  SE SSW NNE  NE NNW SSE                                                       S   S
12/23                      3   2   5       4
                           S   S   S       S
12/24

12/25      1   0           3   2   1
         WSW WSW           S SSW   E
12/26

12/27

12/28          5                       1   2                                               3   3
             WSW                       S SSW                                               S SSW
12/29      6   6                       7
           S SSW                     SSW
12/30

12/31      2   1   0   1
           E   E NNW WNW
```

APPENDIX A
STABILITY WIND ROSE DIAGRAMS

APPENDIX A
STABILITY WIND ROSE DIAGRAMS

According to the data presented in AEC Safety Guide No. 23, the relationships between stability classes and σ_Θ are as follows (the values shown are averages for each stability classification...σ_Θ is the standard deviation of horizontal wind direction fluctuations).

Stability Classification	Pasquill Categories	Average Values σ_Θ (degrees)
Extremely Unstable	A	25.0°
Moderately Unstable	B	20.0°
Slightly Unstable	C	15.0°
Neutral	D	10.0°
Slightly Stable	E	5.0°
Moderately Stable	F	2.5°

Stability wind roses obtained at the trailers in the monitoring network are displayed in the following tables. Because of the relatively low heights above the surface (9 meters) at which the wind data is taken, the stability distributions are skewed toward the unstable end of the spectrum. That is, the unstable classes (A, B, and C) have a much higher frequency of occurrence than would be obtained with the Pasquill method of stability categorization (or with instruments at higher levels).

Table 1 depicts the frequency distribution of Pasquill stability categories based on σ_Θ from data collected by M. M. Pendergast and T. V. Crawford at the Savannah River Plant ("Actual Standard Deviations of Vertical and Horizontal Wind Direction Compared to Estimates from Other Measurements", Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974). Three distinct range patterns of stability class

distributions were observed: low, mid, and high, according to the height at which the σ_Θ measurements were taken.

TABLE 1

FREQUENCY DISTRIBUTION OF PASQUILL STABILITY CATEGORIES

	Stability Categories based on σ_θ							
Height, m	A $\sigma_\theta > 23$	B $18 \le \sigma_\theta < 23$	C $13 \le \sigma_\theta < 18$	D $8 \le \sigma_\theta < 13$	E $4 \le \sigma_\theta < 8$	F $2 \le \sigma_\theta < 4$	G $\sigma_\theta < 2$	
10	22.6	13.9	21.8	23.9	8.9	0.4	3.5	LOW RANGE
35	19.3	11.3	19.4	32.4	15.9	0.7	0.5	
91	9.6	6.7	13.5	21.7	29.5	15.4	2.5	MID RANGE
137	9.3	5.3	11.7	20.8	28.5	18.4	5.5	
182	7.0	2.9	6.8	17.1	25.9	25.6	14.7	HIGH RANGE
243	7.7	4.3	9.4	17.7	27.6	22.9	10.4	
304	7.2	3.7	8.0	17.2	23.7	23.9	11.3	

Also, Figure 1 (from D. H. Slade, Meteorology and Atomic Energy, 1968, p. 52) demonstrates that the line representing very stable conditions (which by their nature are associated with light winds) branches into three separate lines near the ground. The curve at the left represents the smallest values of σ_Θ usually observed. The curve that branches off to the right reflects the contribution of very low-level wind direction meander to the total standard deviation. These meandering oscillations decrease in amplitude very rapidly with height under stable conditions. The central curve represents typical inversion conditions. Actually, for a given stability condition, values of σ_Θ will always be greater when the wind is light than when it is strong. This phenomena is most noticeable in the lowest layers.

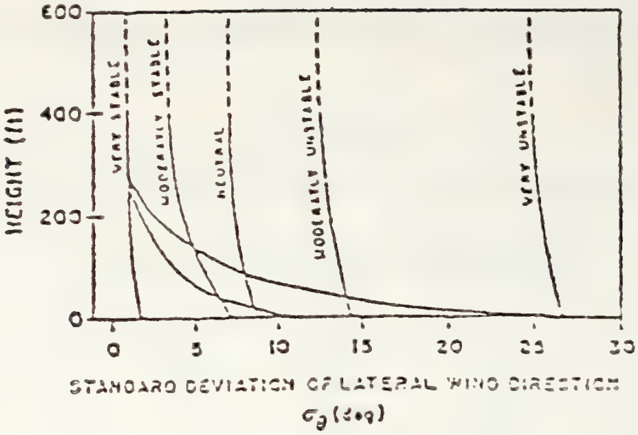

FIGURE 1

The vertical variation of the lateral wind-direction standard deviation (σ_Θ) for various stability regimes. The curves represent average or typical conditions with the exception of the two outer "very stable" lines, which represent extremes.

The large surface values of σ_Θ for unstable conditions do not decrease very rapidly with height. As in the case of very stable conditions, the greatest lateral fluctuations during a very unstable thermal structure occur with very light winds. As a general rule, for a given insolation condition, increasing wind speeds are associated with profiles of σ_Θ that tend toward neutral stability.

The majority of the trailers in the network recorded very light winds throughout the month. Therefore, the stability distributions had a predominance of high σ_Θ values and, hence, unstable classifications. Those trailers with the highest average winds (and fewest nearby obstacles to the flow) generally had the more reasonable and representative low-level stability class distributions.

```
                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                              LEVEL =  6 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - A
                                                                 WIND DIRECTION
                      N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED     11.   11.    4.    4.    4.    4.    5.    7.    6.    8.    9.   12.    9.    8.   10.   11.
     MPH


    GT    24    :                                                                                                :        0.

  18 -    24    :                                                                                                :        0.

  12 -    18    :                                                                  1                             :     1  0.

   7 -    12    :    24     5                                   1           7     4     3     1     3     2    21 :    71  5.

   3 -     7    :    62    23     9    11    11    13    17    32    50    35    29    14     9    17    12    31 :   375 26.

    LT     3    :    71    69    72    63    79    85    78    79    93    78    49    50    35    43    37    36 :  1017 69.

     TOTAL      :   157    97    81    74    90    98    95   112   143   120    82    68    45    63    51    88 :  1464

     PERCENT    :   11.    7.    6.    5.    6.    7.    6.    8.   10.    8.    6.    5.    3.    4.    3.    6. :      100.
                ......................................................................................................

                           TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        329(  22.47 %)
```

```
                                  STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                           LEVEL =  8 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - B
                                                            WIND DIRECTION
                      N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL   %
GROUP MAX SPEED     10.   10.    4.    4.    4.    4.    5.    8.    9.   13.   14.   12.   11.   17.   10.    8.
    MPH


   GT    24    :                                                                                               :          0.

  18 -   24    :                                                                                               :          0.

  12 -   18    :                                                          4     3     2           3            :    12    1.

   7 -   12    :      3     3                                      1    11    42    17     4     1     5     2     3 :    92   10.

   3 -    7    :     19     6     7     8     9    10    11    29    45    66    28     8     4    37    19     7 :   313   35.

   LT     3    :     23    15    19    33    40    33    37    38    53    52    38    25    24    22    11     8 :   471   53.

    TOTAL      :     45    24    26    41    49    43    48    68   109   164    86    39    29    67    32    18 :   888

   PERCENT     :      5.    3.    3.    5.    6.    5.    5.    8.   12.   18.   10.    4.    3.    8.    4.    2. :        100.
                 ..............................................................................................................

                            TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -       116(  13.06 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                       LEVEL =  8 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - C
                                                      WIND DIRECTION
                     N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    10.   9.   4.   5.   4.   5.   8.   8.  21.  18.  16.  14.  18.  21.  11.   9.
    MPH


    GT   24    :                                                                                :         0.

  18 -   24    :                                                 4    1              1    6          :   12  0.

  12 -   18    :                                                24   48   20    3    5   11          :  111  4.

   7 -   12    :    10    3                        1    4  124  322   56   10    4   15   33    4  :  586 22.

   3 -    7    :    26    5   21   45   39   49   46   76  134  139   94   32   32   93   73   17  :  921 35.

    LT    3    :    23   22   47   75   92   76   72   66   75  104  123   55   73   56   26   12  :  997 38.

     TOTAL     :    59   30   68  120  131  125  119  146  361  614  293  100  115  181  132   33  : 2627

    PERCENT    :    2.   1.   3.   5.   5.   5.   5.   6.  14.  23.  11.   4.   4.   7.   5.   1.  :      100.
                 ..........................................................................................

                        TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        159(   6.05 %)
```

CORPORATION

```
                                      STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                              LEVEL =  8 FEET  PERIOD(12/ 1/76 TO 12/31/76)

  STABILITY CLASS - D
                                                                 WIND DIRECTION
                        N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL   X
G GROUP MAX SPEED      9.   15.    4.    5.    5.    5.    5.   10.   22.   15.   16.    7.    4.   19.   10.    9.
      MPH


    GT   24    :                                                                                                    :        0.

  18 -   24    :                                                       16                                1          :   17  1.

  12 -   18    :            1                                          27    18     3                    2          :   51  2.

   7 -   12    :      3     4                                    14   100   121    18     1              4    13    4 :  282  9.

   3 -    7    :     24    13    25    82    95    92   111      69   121    97   290    52    30    75    64    14 : 1254 41.

    LT    3    :     30    28    50    91   113   130   105      65    93   211   339    70    67    30    11    18 : 1451 47.

     TOTAL     :     57    46    75   173   208   222   216     148   357   447   650   123    97   112    88    36 : 3055

    PERCENT    :     2.    2.    2.    6.    7.    7.    7.      5.   12.   15.   21.    4.    3.    4.    3.    1. :      100.
                   ......................................................................................................

                            TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        158(    5.17 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                          LEVEL =  8 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - E
                                                          WIND DIRECTION
                     N   NNE    NE   ENE    E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED     4.    3.    4.    5.    4.    5.    5.    5.   19.    6.    6.    5.    4.    3.    4.    0.
    MPH


    GT    24    :                                                                                              :      0.

  18 -    24    :                                                   1                                          :    1 0.

  12 -    18    :                                                   0                                          :    0 0.

   7 -    12    :                                                   1                                          :    1 0.

   3 -     7    :    2     1     1     6    10     9     8     6    14    11    44     4     3     1     2      :  122 42.

    LT     3    :   11     0     6     8    13     8    16     1     7    23    58     6     7     1     1      :  166 57.

     TOTAL      :   13     1     7    14    23    17    24     7    23    34   102    10    10     2     3     0 :  290

    PERCENT     :   4.    0.    2.    5.    8.    6.    8.    2.    8.   12.   35.    3.    3.    1.    1.    0. :     100.
                  ...................................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        31(  10.69 %)
```

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                                STABILITY WIND ROSE DIAGRAM

                                   C-B SHALE OIL PROJECT
                          LEVEL =  8 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - TOTAL
                                                          WIND DIRECTION
                     N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    11.  15.   4.   5.   5.   5.   8.  10.  22.  18.  16.  14.  18.  21.  11.  11.
    MPH


   GT   24    :                                                                                  :        0.

  18 -  24    :                                            21    1              1    7           :   30   0.

  12 -  18    :          1                                 51   70   26    6    5   16           :  175   2.

   7 -  12    :   40    15                        1   20  236  492   95   18    6   27   50   32 : 1032  12.

   3 -   7    :  133    48   63  152  164  173  193  212  364  348  485  110   78  223  170   69 : 2985  36.

   LT    3    :  143   125  191  274  341  336  312  247  319  476  642  207  210  153   87   69 : 4132  49.

    TOTAL     :  316   189  254  426  505  509  506  479  991 1387 1248  341  300  426  307  170 : 8354

   PERCENT    :    4.    2.   3.   5.   6.   6.   6.   6.  12.  17.  15.   4.   4.   5.   4.   2. :      100.
                ...........................................................................................

                        TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =       793(   9.49 %)


                             PERCENTAGE OF A      STABILITY =  17.52 %
                             PERCENTAGE OF B      STABILITY =  10.63 %
                             PERCENTAGE OF C      STABILITY =  31.45 %
                             PERCENTAGE OF D      STABILITY =  36.57 %
                             PERCENTAGE OF E      STABILITY =   3.47 %
```

CORPORATION

```
                                       STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                              LEVEL = 30 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS = A
                                                             WIND DIRECTION
                      N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     12.   12.   6.   5.   5.   6.   5.   7.   8.   9.  10.  11.   5.   8.  10.  13.
    MPH


    GT   24    :                                                                                   :         0.

  18 -   24    :                                                                                   :         0.

  12 -   18    :      6    2                                                                     1 :      9  1.

   7 -   12    :     19    5                                   3    6    6    5    2         1    3    9 :     59  6.

   3 -    7    :     66   22   14   21   27   35   25   36   39   31   17   14   10   10   10   26 :    403 44.

    LT    3    :     26   20   29   21   48   44   42   33   30   25    9   24   24   30   16   19 :    440 48.

     TOTAL     :    117   49   43   42   75   79   67   72   75   62   31   40   34   41   29   55 :    911

    PERCENT    :    13.   5.   5.   5.   8.   9.   7.   8.   8.   7.   3.   4.   4.   5.   3.   6. :       100.
                   ...............................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        72(   7.90 %)
```

```
                               STABILITY WIND ROSE DIAGRAM

                                  C-B SHALE OIL PROJECT
                       LEVEL = 30 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - B
                                                       WIND DIRECTION
                    N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED   12.   9.   4.   5.   4.   5.   4.   9.  12.  15.  15.   7.  11.  17.   9.  15.
    MPH


   GT   24   :                                                                               :       0.

 18 -   24   :                                                                               :       0.

 12 -   18   :    1                                        1    3    3              2        1 :   11  2.

  7 -   12   :    3    1                              2    4   16   11    1    1    3    3    2 :   47 10.

  3 -    7   :   11    9   10   15   18   22   10   24   24   23   19    8    6   22   12    5 :  238 49.

   LT    3   :    3    5   10   10   27   19   14   16   20    7   13   12    9   13    8    2 :  188 39.

   TOTAL     :   18   15   20   25   45   41   24   42   49   49   46   21   16   40   23   10 /  484

  PERCENT    :   4.   3.   4.   5.   9.   8.   5.   9.  10.  10.  10.   4.   3.   8.   5.   2. :      100.
                 ......................................................................................

                       TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        25(   5.17 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                         LEVEL = 30 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - C
                                                        WIND DIRECTION
                       N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  X
GROUP MAX SPEED      14.   11.   5.   6.   5.   5.   6.  11.  16.  19.  18.  16.  14.  27.  15.  13.
     MPH


     GT   24    :                                                                     1             :    1  0.

  18 -    24    :                                                   3    1            3             :    7  0.

  12 -    18    :     1                                       15   63   24    5    1    4    3    4 :  120  8.

   7 -    12    :     8    3                             10   56  168   47    6    1   32   26   16 :  373 25.

   3 -     7    :    18    9   12   31   48   50   48   36   87   79   31   23   27   72   59   13 :  643 43.

     LT    3    :     6   13   20   16   32   23   24   24   34   32   39   23   25   18   13   11 :  353 24.

      TOTAL     :    33   25   32   47   80   73   72   70  192  345  142   57   54  130  101   44 / 1497

      PERCENT   :    2.   2.   2.   3.   5.   5.   5.   5.  13.  23.   9.   4.   4.   9.   7.   3. :      100.
                ..........................................................................................

                       TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         20(   1.34 %)
```

CORPORATION

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                                        STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                                 LEVEL = 30 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS = D
                                                          WIND DIRECTION
                       N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED      14,   22,    6,    6,    6,    7,   10,   14,   26,   23,   19,   16,   24,   25,   13,   15,
      MPH


     GT   24    :                                                    8                         1     6               :    15  0,

   18 -   24    :           2                                       21    13     5             3     8               :    52  1,

   12 -   18    :     1     1                                  4   115   184    46     5       2     5     5    13   :   381 10,

    7 -   12    :     8     5                      2     6    40   148   309    54    10       5    53    84    29   :   753 20,

    3 -    7    :    25    12    23    97   167   201   183   134   146   211   228    81      99   129    45    35   :  1816 49,

     LT    3    :     7    10    20    22    31    44    59    71    91    99    90    43      32    23    17    18   :   677 18,

      TOTAL     :    41    30    43   119   198   247   248   249   529   816   423   139     142   224   151    95   :  3694

     PERCENT    :    1,    1,    1,    3,    5,    7,    7,    7,   14,   22,   11,    4,      4,    6,    4,    3,   :      100,
                ..........................................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =          48(   1,30 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                           LEVEL = 30 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS = E
                                                         WIND DIRECTION
                       N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED      10.  14.   5.   6.   6.   6.   8.  12.  26.  16.  13.  15.   8.  18.  11.  14.
    MPH

                                                                                              :     6   1.
   GT   24    :                                                6
                                                                                              :     5   0.
  18 -  24    :                                                4                    1
  12 -  18    :           4                                1  16   10    1    1         0         2 :    35   3.
   7 -  12    :      4    8                        5   29  40   26    6    1    2   17   11    5 :   154  15.
   3 -   7    :     23    8    7   19   56   69   66   54  28  110   99   23   32   31   11    6 :   642  61.
  LT     3    :      9    4    5    7    2    8   15   27  22   33   41   12    9    2    3    4 :   203  19.
   TOTAL      :     36   24   12   26   58   77   86  111 116  179  147   37   43   51   25   17 :  1045
  PERCENT     :     3.   2.   1.   2.   6.   7.   8.  11. 11.  17.  14.   4.   4.   5.   2.   2. :       100.
                ..............................................................................................

                  TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        5(   0.48 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                       LEVEL = 30 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - TOTAL
                                                           WIND DIRECTION
                    N   NNE   NE  ENE    E  ESE   SE  SSF    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    14.  22.   6.   6.   6.   7.  10.  14.  26.  23.  19.  16.  24.  27.  15.  15.
    MPH

   GT   24   :                                            14                        1    7           :   22  0.

 18 -   24   :          2                                 25   16    6              3   12           :   64  1.

 12 -   18   :     9    7                             5  147  260   74   11         3   11    8   21 :  556  7.

  7 -   12   :    42   22                   2   11   84  254  525  123   20         9  106  127   61 : 1386 18.

  3 -    7   :   143   60   66  183  316  377  332  284  324  454  394  149  174  264  137   85 : 3742 49.

   LT    3   :    49   52   84   77  141  140  157  173  199  203  199  115  102   88   57   54 : 1890 25.

   TOTAL     :   243  143  150  260  457  519  500  546  963 1458  796  295  292  488  329  221 : 7660

   PERCENT   :    3.   2.   2.   3.   6.   7.   7.   7.  13.  19.  10.   4.   4.   6.   4.   3. :      100.
               ........................................................................................

                   TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        170(   2.22 %)


                        PERCENTAGE OF A      STABILITY -  11.89 %
                        PERCENTAGE OF B      STABILITY -   6.32 %
                        PERCENTAGE OF C      STABILITY -  19.54 %
                        PERCENTAGE OF D      STABILITY -  48.22 %
                        PERCENTAGE OF E      STABILITY -  13.64 %
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                     C-B SHALE OIL PROJECT
                            LEVEL =100 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - A                                      WIND DIRECTION
                      N   NNE   NE  ENE   E   ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW    TOTAL   %
GROUP MAX SPEED     16.   14.   6.   5.   6.   6.   8.   9.   9.  10.  12.   7.   5.  10.  10.  16.
    MPH

   GT   24     :                                                                                  :          0.
 18 -   24     :                                                                                  :          0.
 12 -   18     :     9     2                                         1                         6  :     18   2.
  7 -   12     :    17     6                        1    4   10    5    5    1         1    1    6  :     57   5.
  3 -    7     :    65    25   17   12   16   42   53   58   70   42   24    9    7   15   12   23  :    490  45.
  LT     3     :    26    22   28   29   35   48   66   71   41   25   36   24   21   26   10   12  :    520  48.
   TOTAL       :   117    55   45   41   51   90  120  133  121   72   66   34   28   42   23   47  /   1085
  PERCENT      :    11.    5.   4.   4.   5.   8.  11.  12.  11.   7.   6.   3.   3.   4.   2.   4.  :        100.
               ..........................................................................................

                    TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -       133(  12.26 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                              LEVEL =100 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - B
                                                           WIND DIRECTION
                        N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED       11.    5.   5.   4.   5.   6.   7.   7.  12.  13.  14.  14.   7.  20.  10.  13.
    MPH


     GT   24    :                                                                                   :       0.

   18 -   24    :                                                                    1              :     1  0.

   12 -   18    :                                                1    1    3    1         0       1 :     7  1.

    7 -   12    :   2                                  1    2   11   18    9    3    1    0    1    5 :    53 11.

    3 -    7    :  17    3    8    5    9   20   41   30   33   30   11    8    7   10    8    1 :   241 51.

     LT    3    :   2    5    4   11   11   17   14   13   25    9   16   10   15    9    7    1 :   169 36.

      TOTAL     :  21    8   12   16   20   37   56   45   70   58   39   22   23   20   16    8 /   471

     PERCENT    :   4.   2.   3.   3.   4.   8.  12.  10.  15.  12.   8.   5.   5.   4.   3.   2. :       100.
                ...........................................................................................

                           TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =         28(   5.94 %)
```

```
                                     STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                               LEVEL =100 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - C
                                                       WIND DIRECTION
                     N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    11.  14.   6.   6.   6.   6.   7.  12.  15.  22.  19.  16.  17.  27.  16.  14.
    MPH


    GT   24    :                                                                3                :    3  0.

  18 -   24    :                                              8    2            4                :   14  1.

  12 -   18    :          3                            1   11   53   32    7    2    1    4    3  :  117  8.

   7 -   12    :     4    2                       3   11   48  111   57    9    1   18   29   12  :  305 22.

   3 -    7    :    18   18   10   18   24   40   78   50   66   50   39   25   19   75   73   11  :  614 44.

    LT    3    :    12    9   14   22   22   25   29   28   28   22   21   30   31   21   29   11  :  354 25.

     TOTAL     :    34   32   24   40   46   65  110   90  153  244  151   71   53  122  136   37  : 1407

    PERCENT    :    2.   2.   2.   3.   3.   5.   8.   6.  11.  17.  11.   5.   4.   9.  10.   3.  :      100.
                ..........................................................................................

                           TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        49(   3.48 %)
```

CORPORATION

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                                     STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                               LEVEL =100 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - D
                                                             WIND DIRECTION
                    N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW   TOTAL  %
GROUP MAX SPEED   16.   18.   4.    5.   7.    8.   9.   15.  32.   26.  23.   20.  25.   33.  21.   17.
    MPH


    GT   24   :                                             20     4                1    11              :   36  1.

  18 -   24   :          1                                  26    78   34     5     1     3    2         :  150  4.

  12 -   18   :    7     6                            6    116   351   64     6     2     5   10    29   :  602 17.

   7 -   12   :   16     5               2    19   42   65   137   261   95    30    13    71  124    58   :  938 27.

   3 -    7   :   41    22    17   18   55   115  168  100   116    96   63    76   105   149   82    46   : 1269 36.

   LT     3   :   17    13    14   18   28    37   67   52    49    29   42    31    37    25   21    22   :  502 14.

    TOTAL     :   81    47    31   36   85   171  277  223   464   819  298   148   159   264  239   155   : 3497

   PERCENT    :   2.    1.    1.   1.   2.    5.   8.   6.   13.   23.   9.    4.    5.    8.   7.    4.   :      100.
                 ...........................................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        65(   1.86 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                        LEVEL =100 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - E
                                                           WIND DIRECTION
                        N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL   %
( GROUP MAX SPEED     14.   25.   4.   4.   7.   8.   7.  15.  32.  21.  23.  16.   9.  28.  13.  18.
       MPH

     GT   24     :           1                                  12                        2           :   15   2.

   18 -   24     :           0                                   9    6    8              0         1 :   24   2.

   12 -   18     :     6     5                             3    30   55    6    1         1    3    6 :  116  12.

    7 -   12     :     5     4              1    8   16   27    37   34   24    9    4   24   26   29 :  248  25.

    3 -    7     :    13     9     2    5   20   50   81   42    38   25   17   24   27   34   24   19 :  430  43.

     LT    3     :     9     6     5    8   13   17   17   21    20    9    7   10    6    3    3    6 :  160  16.

     TOTAL       :    33    25     7   13   34   75  114   93   146  129   62   44   37   64   56   61 :  993

     PERCENT     :    3.    3.    1.   1.   3.   8.  11.   9.   15.  13.   6.   4.   4.   6.   6.   6. :      100.
                 ..........................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        37(   3.73 %)
```

```
                                           STABILITY WIND ROSE DIAGRAM

                                             C-B SHALE OIL PROJECT
                                  LEVEL =100 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - TOTAL
                                                          WIND DIRECTION
                        N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED       16.   25.    6.    6.    7.    8.    9.   15.   32.   26.   23.   20.   25.   33.   21.   18.
     MPH


    GT   24   :             1                                          32     4                     1    16              :   54  1.

  18 -   24   :             1                                          35    92    44     5     1     8     2     1 :  189  3.

  12 -   18   :    22      16                                   10    158   460   106    15     4     7    17    45 :  860 11.

   7 -   12   :    44      17                 3    27    63   109   243   429   190    52    19   114   181   110 : 1601 21.

   3 -    7   :   154      77    54    58   124   267   421   280   323   243   154   142   165   283   199   100 : 3044 41.

    LT    3   :    64      55    65    88   110   145   196   186   164    97   125   109   115    90    75    54 : 1738 23.

    TOTAL     :   284     167   119   146   237   439   680   585   955  1325   619   323   305   518   474   310 / 7486

    PERCENT   :    4.      2.    2.    2.    3.    6.    9.    8.   13.   18.    8.    4.    4.    7.    6.    4. :       100.
              ..............................................................................................................

                           TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =       312(   4.17 %)


                                 PERCENTAGE OF A      STABILITY -  14.49 %
                                 PERCENTAGE OF B      STABILITY -   6.29 %
                                 PERCENTAGE OF C      STABILITY -  18.80 %
                                 PERCENTAGE OF D      STABILITY -  46.71 %
                                 PERCENTAGE OF E      STABILITY -  13.26 %
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                               LEVEL =200 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - A
                                                          WIND DIRECTION
                      N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED     16.   17.    6.    5.    5.    6.    7.   10.   12.   12.    9.   14.    5.   11.   14.    9.
    MPH


    GT   24    :                                                                                                :         0.

  18 -   24    :                                                                                                :         0.

  12 -   18    :      4     6                                         1     1           1                 3         :    16  2.

   7 -   12    :     21     5                             1     7    20    11     2     2           3     2     6 :    80  9.

   3 -    7    :     51    32    12     9    10    17    23    48    91    79    22     9    10    15    14    25 :   467 50.

    LT    3    :     20    25    20    20    16    19    34    35    60    29    19    22    16    13    13    15 :   376 40.

     TOTAL     :     96    68    32    29    26    36    58    90   172   120    43    34    26    31    32    46 /   939

    PERCENT    :    10.    7.    3.    3.    3.    4.    6.   10.   18.   13.    5.    4.    3.    3.    3.    5. :        100.
                   ..................................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        113(  12.03 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                    LEVEL =200 FEET  PERIOD(12/ 1/76 TO 12/31/76)

 STABILITY CLASS - B
                                                            WIND DIRECTION
                         N   NNE   NE  ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED        10.    4.   6.   3.   7.    4.   5.    6.  10.   11.  17.   10.   8.    7.   6.   12.
    MPH


    GT   24    :                                                                                        :        0.
  18 -   24    :                                                                                        :        0.
  12 -   18    :                                                             1                        1 :     2  0.
   7 -   12    :   2                      1                        21    23   10     3    1     1       0 :    62 13.
   3 -    7    :   6     4     6     2    6    10   12    25    62    67   16     5   11    13    9    2 :   256 54.
    LT    3    :   4     5     6     2    9     8   19    18    14    16    9     6   11    12    6    5 :   150 32.
   TOTAL       :  12     9    12     4   16    18   31    43    97   106   36    14   23    26   15    8 :   470
  PERCENT      :   3.    2.    3.    1.   3.    4.   7.    9.   21.   23.   8.    3.   5.    6.   3.   2. :      100.
               ......................................................................................................
                    TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         28(   5.96 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                              LEVEL =200 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS = C
                                                 WIND DIRECTION
                     N   NNE    NE   ENE     E   ESE    SE   SSF     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL   %
GROUP MAX SPEED    13.   14.    5.    4.    7.    6.    6.   13.   25.   24.   22.   18.   17.   27.   17.   17.
    MPH


    GT   24    :                                                       1     1                       2               :     4  0.

  18 -   24    :                                                       1     4     4     4           3               :    16  1.

  12 -   18    :     1     2                                     1    10    40    26     5     2     1     5     7   :   100  8.

   7 -   12    :     3     1                 1                   8    46   130    59    10     0    10    30    15   :   313 25.

   3 -    7    :    22    18     5     3    15    18    35    45    82    90    36    17    21    62    81    14   :   564 44.

    LT    3    :     4    10    10    11    17    15    21    19    22    27    24    16    19    25    19    15   :   274 22.

     TOTAL     :    30    31    15    14    33    33    56    73   162   292   149    52    42   103   135    51   /  1271

    PERCENT    :    2.    2.    1.    1.    3.    3.    4.    6.   13.   23.   12.    4.    3.    8.   11.    4.   :        100.
                 ............................................................................................................

                        TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        41(   3.23 %)
```

```
                                  STABILITY WIND ROSE DIAGRAM

                                     C-B SHALE OIL PROJECT
                         LEVEL =200 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - D
                                                   WIND DIRECTION
                     N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    15.  19.   5.   4.   5.   8.   8.  14.  37.  34.  23.  22.  27.  31.  23.  18.
    MPH


    GT   24   :                                              24   30              1    9           :   64  2.

  18 -   24   :          1                                   19  169   79   12    2    7    1    1 :  291  9.

  12 -   18   :     5   11                              6    65  373   99    8    2    5   30   30 :  634 19.

   7 -   12   :    21    5                   3     6   47    90  261  114   31   11   65  139   67 :  860 26.

   3 -    7   :    34   14   21   16   22   43    97   88   108   88   51   73   61  119   86   49 :  970 29.

    LT    3   :    16   12   15   25   27   40    46   44    45   25   34   22   28   42   35   18 :  475 14.

    TOTAL     :    76   43   37   41   49   86   149  185   351  946  377  146  105  247  291  165 : 3294

   PERCENT    :    2.   1.   1.   1.   1.   3.    5.   6.   11.  29.  11.   4.   3.   7.   9.   5. :      100.
                 .........................................................................................

                     TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =          56(   1.70 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                      LEVEL =200 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - E
                                                           WIND DIRECTION
                     N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    16,  26,   5,   4,   5,   7,   7,  12,  38,  32,  23,  19,   8,  32,  14,  21.
    MPH

    GT   24    :         1                                  14   15                    5              :   35  3,

  18 -   24    :         0                                  19   64   21    2          1           2  :  109  9,

  12 -   18    :   13    7                             2    30  139   33    4          2    7     39  :  276 23,

   7 -   12    :   13    2                   1    5   14    30   44   20   16     5   24   40     47  :  281 22,

   3 -    7    :   35   11   10    4   10   32   44   23    33   26   11   24    12   40   30     17  :  362 30,

   LT     3    :   14    3   13    7   12   20   19   12    13   10    8    4     3    6    6      4  :  154 13,

     TOTAL     :   75   24   23   11   22   53   68   51   139  298   93   50    20   78   83    109  : 1197

   PERCENT     :   6,   2,   2,   1,   2,   4,   6,   4,   12,  25,   8,   4,    2,   7,   7,     9, :      100,
                   ......................................................................................

                TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        31(   2,59 %)
```

```
                                    STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                              LEVEL =200 FEET  PERIOD(12/ 1/76 TO 12/31/76)

STABILITY CLASS - TOTAL
                                                                 WIND DIRECTION
                        N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED       16.  26.   6.   5.   7.   8.   8.  14.  38.  34.  23.  22.  27.  32.  23.  21.
    MPH


   GT   24    :          1                                     39   46                   1   16            :  103  1.

 18 -   24    :          1                                     39  237  104   18    2   11    1    3 :  416  6.

 12 -   18    :   23    26                                9   106  553  159   18    4    8   45   77 : 1028 14.

  7 -   12    :   60    13              2    4   12   76  207  469  205   62   17  103  211  135 : 1576 22.

  3 -    7    :  148    79   54   34   63  120  211  229  376  350  136  128  115  249  220  107 : 2619 36.

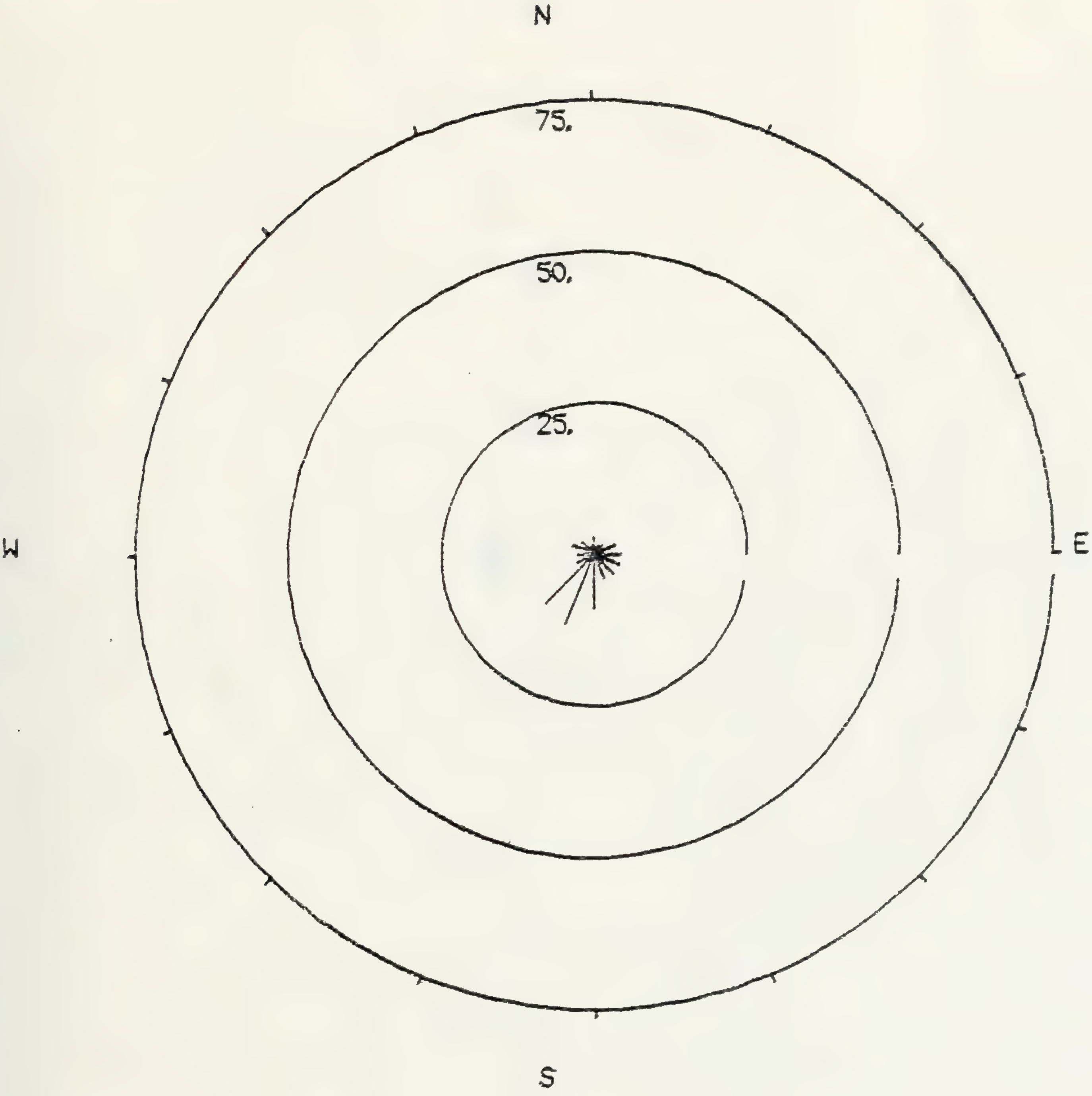
  LT     3    :   58    54   66   67   83  104  143  128  151  107   97   74   81  105   85   58 : 1461 20.

   TOTAL      :  289   174  120  101  148  228  366  442  918 1762  701  300  220  492  562  380 / 7203

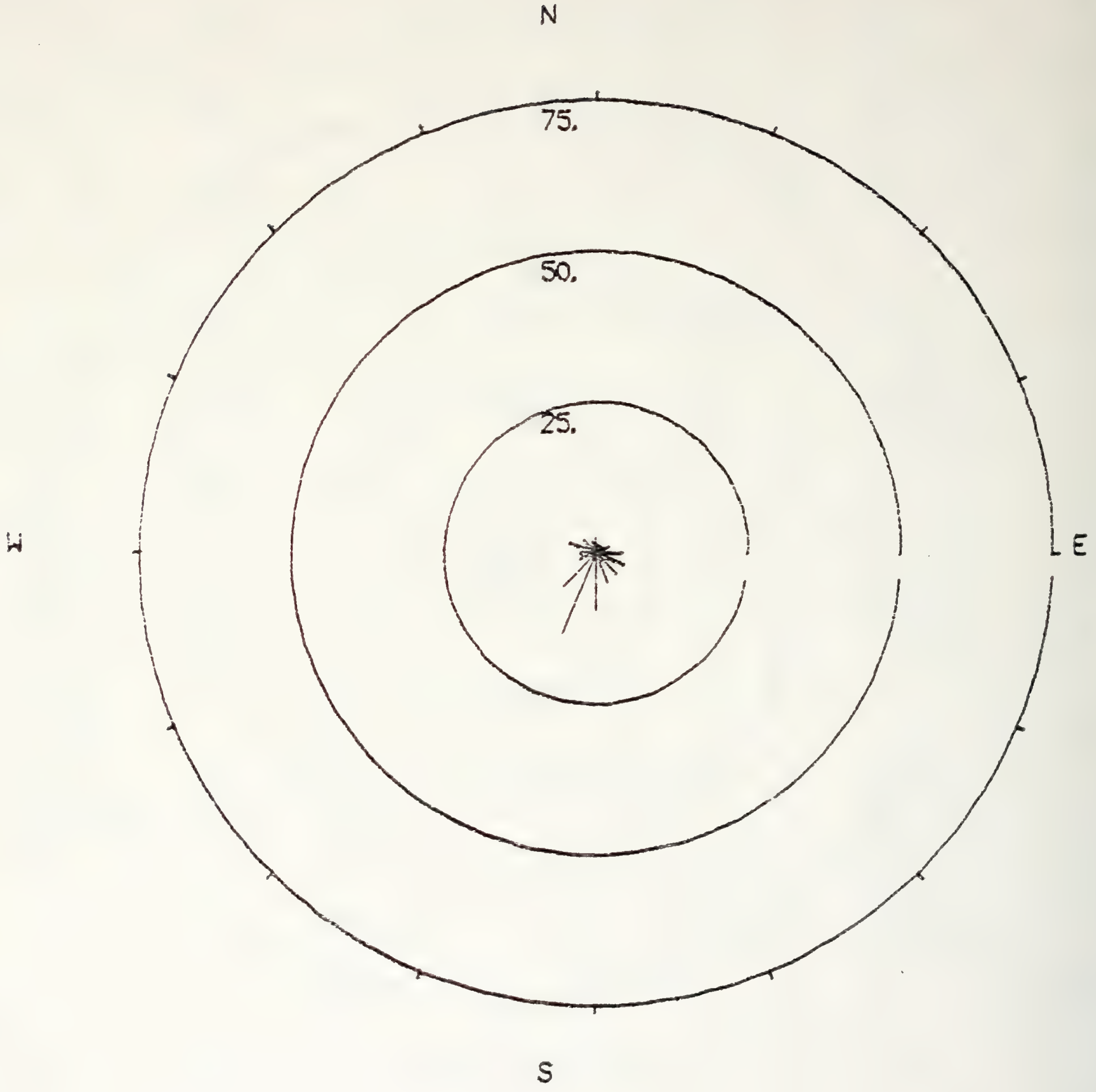
  PERCENT     :    4.    2.   2.   1.   2.   3.   5.   6.  13.  24.  10.   4.   3.   7.   8.   5. :       100.
              ..........................................................................................

                    TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        269(   3.73 %)

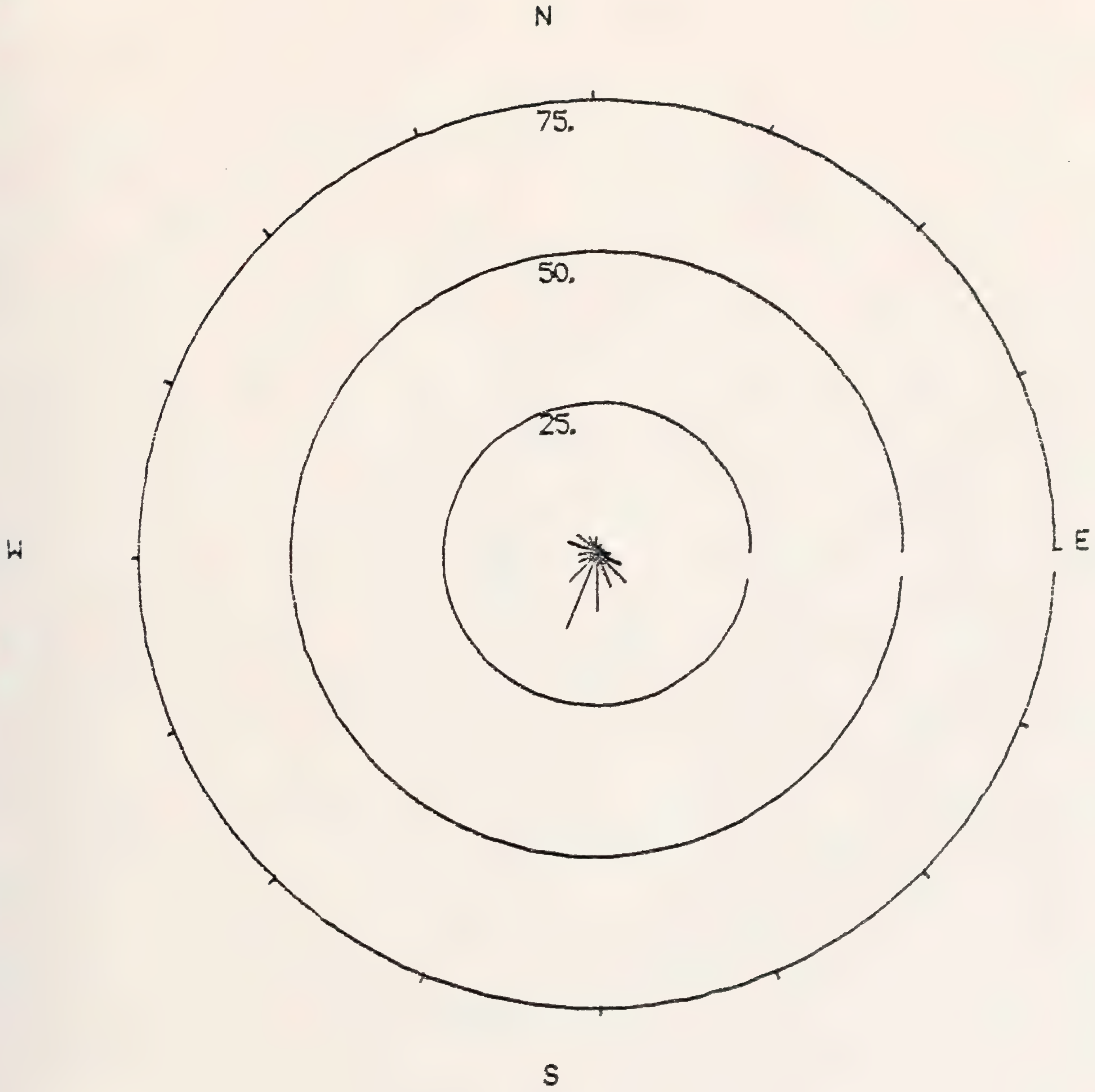

                         PERCENTAGE OF A      STABILITY -  13.04 %
                         PERCENTAGE OF B      STABILITY -   6.53 %
                         PERCENTAGE OF C      STABILITY -  17.65 %
                         PERCENTAGE OF D      STABILITY -  45.73 %
                         PERCENTAGE OF E      STABILITY -  16.62 %
```



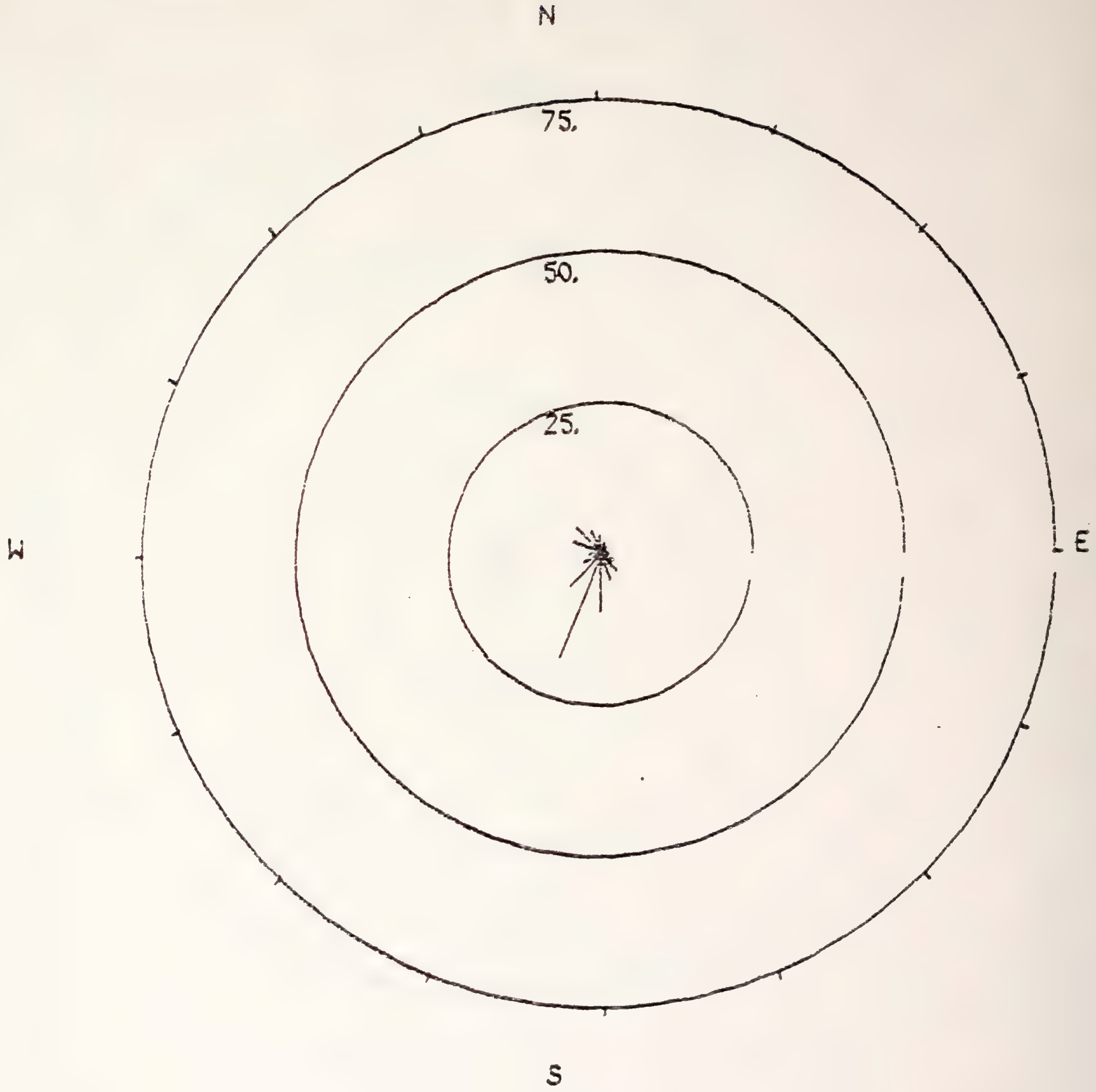
PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 8 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 30 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 100 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL

RADIAN REPORT -

RADIAN
CORPORATION

DCN 77-100-056-04

AIR MONITORING REPORT
FOR
C-b SHALE OIL PROJECT
JANUARY 1977
Report No. 29

13 April 1977

Presented to:
C-b Shale Oil Project
United Bank Tower
Denver, Colorado 80202

Prepared by:
Radian Staff

II B-625

TABLE OF CONTENTS

Page

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM------- II B-635

II. DESCRIPTION OF INSTRUMENT SYSTEMS------------------ -637
  A. Air Quality Instrumentation-------------------- -637
  B. Calibration Procedures------------------------ -638
  C. Data Acquisition System----------------------- -640
  D. Meteorological Instrumentation---------------- -641

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES----------- -647

IV. OPERATING TIME ANALYSIS FOR EACH SITE-------------- -649

V. MONTHLY METEOROLOGICAL SUMMARY--------------------- -653
  A. Summary of the Meteorological Conditions over North America during January 1977--------- -653
  B. Summary of the Meteorological Conditions in Northwestern and West Central Colorado during January 1977---------------------------- -655
  C. Summary of the Meteorological Conditions in the Oil Shale Tract C-b Region during January 1977------------------------------------ -656

VI. DATA PRESENTATION AND SUMMARY---------------------- -662

LIST OF TABLES

Page

TABLE I DOWNTIME HOURS FOR C-b SHALE OIL PROJECT
Site 023---------------------------------- II B-650
Site 023---------------------------------- -651
Site 023---------------------------------- -652

TABLE II FEDERAL AND COLORADO STANDARDS------------- -668

TABLE III AVERAGES FOR JANUARY 1 THRU 31
Nitrogen Oxides (NO_x)--------------------- -670
Nitric Oxide (NO)------------------------- -670
Nitrogen Dioxide (NO_2)-------------------- -670
Sulfur Dioxide (SO_2)---------------------- -670
Pyranometer------------------------------- -670
Hydrogen Sulfide-------------------------- -670
Total Hydrocarbons------------------------ -670
Methane----------------------------------- -670
Non-Methane------------------------------- -670
Carbon Monoxide--------------------------- -670
Ozone------------------------------------- -670
Barometric Pressure----------------------- -670
Total Precipitation----------------------- -670
Particulate------------------------------- -670
Wind Speed-------------------------------- -671
Wind Direction---------------------------- -671
Relative Humidity------------------------- -671
Temperature------------------------------- -671

LIST OF TABLES (contd) Page

TABLE IV DAILY AVERAGES FOR JANUARY 1 THRU 31

Nitrogen Oxides (NO_x)---------------------- II B-673
Nitric Oxide (NO)-------------------------- -673
Nitrogen Dioxide (NO_2)-------------------- -673
Sulfur Dioxide (SO_2)---------------------- -674
Pyranometer-------------------------------- -674
Hydrogen Sulfide--------------------------- -674
Total Hydrocarbons------------------------- -675
Methane------------------------------------ -675
Non-Methane Hydrocarbons------------------- -675
Carbon Monoxide---------------------------- -676
Ozone-------------------------------------- -676
Barometric Pressure------------------------ -676
Total Precipitation------------------------ -677
Particulate-------------------------------- -677
Wind Speed--------------------------------- -678
Wind Direction----------------------------- -679
Relative Humidity-------------------------- -680
Temperature-------------------------------- -681

TABLE V MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JANUARY 1 THRU 31

Nitrogen Oxides (NO_x)---------------------- -683
Nitric Oxide (NO)-------------------------- -684
Nitrogen Dioxide (NO_2)-------------------- -685
Sulfur Dioxide (SO_2)---------------------- -686
Pyranometer-------------------------------- -687
Hydrogen Sulfide--------------------------- -688
Total Hydrocarbons------------------------- -689
Methane------------------------------------ -690
Non-Methane Hydrocarbons------------------- -691
Carbon Monoxide---------------------------- -692
Ozone-------------------------------------- -693

LIST OF TABLES (contd)

		Page
TABLE V	MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JANUARY 1 THRU 31	
	Barometric Pressure	II B-694
	Total Precipitation	-695
	Wind Speed-Wind Direction	-696
	Relative Humidity	-697
	Temperature	-698
TABLE VI	THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR JANUARY 1 THRU 31	
	Nitrogen Oxides	-700
	Nitric Oxide	-700
	Nitrogen Dioxide	-700
	Sulfur Dioxide	-701
	Sulfur Dioxide - 24-hour	-701
	Hydrogen Sulfide	-702
	Total Hydrocarbons	-702
	Methane	-703
	Non-Methane Hydrocarbons	-704
	Carbon Monoxide - 1-hour	-705
	Carbon Monoxide - 8-hour	-706
	Ozone	-707
	Particulate	-708
TABLE VII	FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION	
	Nitrogen Oxides (NO_x)	-710
	Nitric Oxide (NO)	-711
	Nitrogen Dioxide (NO_2)	-712
	Sulfur Dioxide (SO_2)	-713
	Hydrogen Sulfide (H_2S)	-714
	Total Hydrocarbons	-715

LIST OF TABLES (contd) Page

TABLE VII FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION

Methane-- II B-716
Non-Methane Hydrocarbons------------------ -717
Carbon Monoxide--------------------------- -718
Ozone--- -719

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Nitrogen Oxides--------------------------- -721
Nitric Oxide------------------------------- -722
Nitrogen Dioxide-------------------------- -723
Sulfur Dioxide----------------------------- -724
Hydrogen Sulfide-------------------------- -725
Total Hydrocarbons------------------------ -726
Methane------------------------------------- -727
Non-Methane Hydrocarbons---------------- -728
Carbon Monoxide--------------------------- -729
Ozone--------------------------------------- -730
Hourly Total Precipitation---------------- -731

Wind Speed

8 feet------------------------------------- -732
30 feet------------------------------------- -733
100 feet------------------------------------ -734
200 feet------------------------------------ -735

Wind Direction

8 feet------------------------------------- -736
30 feet------------------------------------- -737
100 feet------------------------------------ -738
200 feet------------------------------------ -739

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS
Wind Direction Standard Deviation
8 feet---------------------------------- II B-740
30 feet---------------------------------- -741
100 feet---------------------------------- -742
200 feet---------------------------------- -743
Horizontal Wind Direction Standard Deviation
30 feet---------------------------------- -744
100 feet---------------------------------- -745
200 feet---------------------------------- -746
Relative Humidity
8 feet---------------------------------- -747
30 feet---------------------------------- -748
100 feet---------------------------------- -749
200 feet---------------------------------- -750
Temperature
8 feet---------------------------------- -751
30 feet---------------------------------- -752
100 feet---------------------------------- -753
200 feet---------------------------------- -754
Hourly Total Solar Radiation--------------- -755
Temperature Change from 30' to 100'-------- -756
Temperature Change from 30' to 200'-------- -757
Barometric Pressure------------------------ -758
Bi-Vane Wind Speed
30 feet---------------------------------- -759
100 feet---------------------------------- -760
200 feet---------------------------------- -761

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Horizontal Bi-Vane Wind Direction
30 feet---------------------------------- II B-762
100 feet---------------------------------- -763
200 feet---------------------------------- -764
Vertical Bi-Vane Wind Direction
30 feet---------------------------------- -765
100 feet---------------------------------- -766
200 feet---------------------------------- -767
Nitrogen Oxides---------------------------- -768
Nitric Oxide------------------------------- -769
Nitrogen Dioxide--------------------------- -770
Sulfur Dioxide----------------------------- -771
Hydrogen Sulfide--------------------------- -772
Total Hydrocarbons------------------------- -773
Methane------------------------------------ -774
Non-Methane Hydrocarbons------------------- -775
Carbon Monoxide---------------------------- -776
Ozone-------------------------------------- -777
Hourly Total Precipitation----------------- -778
Wind Speed
8 feet---------------------------------- -779
30 feet---------------------------------- -780
100 feet---------------------------------- -781
200 feet---------------------------------- -782
Wind Direction
8 feet---------------------------------- -783
30 feet---------------------------------- -784
100 feet---------------------------------- -785
200 feet---------------------------------- -786

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS
Relative Humidity
8 feet---------------------------------- II B-787
30 feet---------------------------------- -788
100 feet---------------------------------- -789
200 feet---------------------------------- -790
Temperature
8 feet---------------------------------- -791
30 feet---------------------------------- -792
100 feet---------------------------------- -793
200 feet---------------------------------- -794
Barometric Pressure------------------------ -796
Solar Radiation---------------------------- -795
Bi-Vane Wind Speed
30 feet---------------------------------- -797
100 feet---------------------------------- -798
200 feet---------------------------------- -799
Horizontal Bi-Vane Wind Direction
30 feet---------------------------------- -800
100 feet---------------------------------- -801
200 feet---------------------------------- -802
Stability Class Determination Using Pyranometer Recording---------------------- -803
Stability Class Determination Using DT/DZ (Level 1)--------------------------- -804
Stability Class Determination Using DT/DZ (Level 2)--------------------------- -817

LIST OF TABLES (contd) Page

APPENDIX A - STABILITY WIND ROSE DIAGRAMS---------------- II B-830
8-foot level - Stability Class A------------ -834
Class B------------ -835
Class C------------ -836
Class D------------ -837
Class E------------ -838
Class Total-------- -839

30-foot level - Stability Class A------------ -840
Class B------------ -841
Class C------------ -842
Class D------------ -843
Class E------------ -844
Class Total-------- -845

100-foot level - Stability Class A------------ -846
Class B------------ -847
Class C------------ -848
Class D------------ -849
Class E------------ -850
Class Total-------- -851

200-foot level - Stability Class A------------ -852
Class B------------ -853
Class C------------ -854
Class D------------ -855
Class E------------ -856
Class Total-------- -857

Percentage of Occurrence of Wind Direction
8-foot level--------------------------- -858
30-foot level--------------------------- -859
100-foot level--------------------------- -860
200-foot level--------------------------- -861

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM

Radian Corporation, under contract to the C-b Oil Shale Project, is performing the data compilation and reporting of air quality and meteorological data at one monitoring site in Northwest Colorado. The site measures and records concentrations of particulates, sulfur dioxide, oxides of nitrogen, hydrogen sulfide, total hydrocarbons, methane, and carbon monoxide. A 200-foot meteorological tower provides wind direction, wind speed, temperature, and relative humidity data at four levels (8, 30, 100, and 200 feet). Other meteorological variables measured at the tower site are insolation, barometric pressure, and precipitation.

Figure I shows the configuration of the monitoring station. The station provides a sturdy and protective covering for the monitoring equipment.

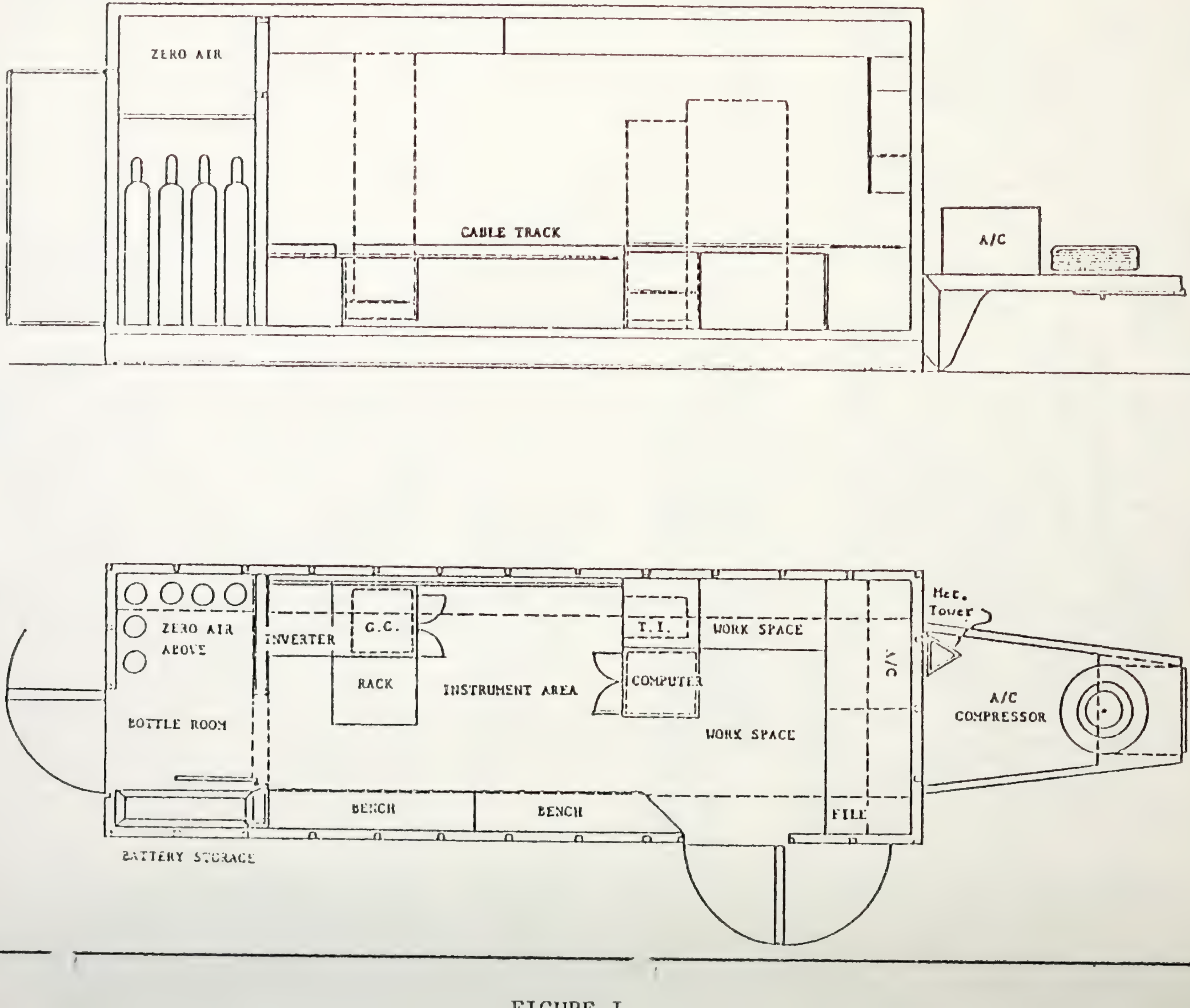

ZERO AIR
CABLE TRACK
A/C
ZERO AIR ABOVE
INVERTER
G.C.
RACK
INSTRUMENT AREA
T.I.
COMPUTER
WORK SPACE
WORK SPACE
A/C
Met. Tower
A/C COMPRESSOR
BOTTLE ROOM
BENCH
BENCH
FILE
BATTERY STORAGE

FIGURE 1

II. DESCRIPTION OF INSTRUMENT SYSTEMS

A. Air Quality Instrumentation

Nitrogen oxides are measured with a Meloy Model NA520 analyzer. This dual-channel analyzer is based on the chemiluminescent principle and continuously monitors both NO_x and NO. A subtraction circuit in the instrument provides a continuous NO_2 output, but is not used in Radian's system. NO_2 is calculated once a second by the computer by subtracting the NO value from the NO_x value, thus avoiding any drift which might occur in the NO_2 output of the instrument. This instrument has a minimum detectable sensitivity of 5 ppb (parts per billion), and a linearity of ±1%.

Both sulfur dioxide and hydrogen sulfide are measured with Meloy Model SA185 sulfur analyzers. The hydrogen sulfide analyzer uses a Meloy Model NO_x-1 sulfur dioxide scrubber and the sulfur dioxide analyzer uses a Meloy Model H_2S-1 hydrogen sulfide scrubber. The Model SA185 is a continuous analyzer and utilizes the flame photometric principle of operation. The minimum detectable sensitivity is 5 ppb and the linearity of ±1%.

Ozone is measured with a Meloy Model OA350 analyzer. This instrument provides continuous measurement of ozone and is based on the chemiluminescent principle. The minimum detectable sensitivity is 0.5 ppb and the linearity is ±1%.

Total hydrocarbons, methane, and carbon monoxide are monitored with a Bendix Model 8200 gas chromatograph analyzer. This instrument uses a plume ionization detector and has a minimum detectable sensitivity of 5 ppb for all three components. The Model 8200 works on a five-minute cycle, i.e., one air sample is analyzed every five minutes, and the result is displayed for five minutes via a sample and hold circuit.

The air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25mm diameter, and a constant air flow through the system is provided by an air pump rated at 60 cfm at 0" head pressure. The manifold has sampling ports to which 1/4" teflon lines to the instrument are connected. All joints in the sampling system are secured by O-ring compression fittings. The manifold is contained in a heated (100°F) chamber to prevent condensation of moisture. The teflon lines from the manifold to the instruments are insulated with 1/8" wall thickness rubber tubing.

The trailer has four heavy duty high volume particulate samplers (Hi-Vols). Fiberglass filter paper is used for collection of particulate samples and each filter is brought to a controlled humidity before weighing. Each Hi-Vol has a flow recorded to permit correction for changes in air flow as the filter becomes loaded with particulates. Each Hi-Vol runs for a 24-hour period (midnight to midnight) and is turned on and off by the computer. The Hi-Vols were designed following guidelines recommended by the Environmental Protection Agency and were manufactured by Radian.

In addition to the normal Hi-Vol particulate samples, a duplicate Hi-Vol sample is collected every sixth day on special filter paper for trace element analysis. Once each quarter these samples are composited and analyzed for gross radioactivity and trace element content.

B. Calibration Procedures

The trailer contains a Meloy Model RAD-1 calibration unit. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely diluting bottled NO span gas. The calibration of all instruments is automatically performed once a day and is controlled by the computer. Each instrument is first switched to zero; the computer monitors the output of each channel and takes a new zero reading after a stable zero signal has been reached. This zero reading is compared by the computer to the zero reading obtained 24 hours before, and if a drift in excess of 10 ppb has occurred, an excess zero drift light for the channel in question is turned on on the System Status Panel. Next, span gas is supplied to each channel and the computer decides when a stable span value has been reached. This value is recorded and compared to the previous day's value. An excess span drift light on the System Status Panel is turned on if a drift exceeding 10 ppb occurs. The instruments are then returned to the monitor mode and after two minutes the computer resumes data taking.

The bottled NO gas used at each site was obtained from Precision Gas Products. Pre-purified grade hydrogen is used in the SO_2 analyzers.

The SO_2 permeation tubes were manufactured by Metronics Association, Inc. Their output has been verified by comparison to the output of National Bureau of Standards tube 10-42. Both SA185 analyzers in each trailer are calibrated with the SO_2 from the permeation tube. This instrument responds to the number of sulfur atoms per molecule; thus, SO_2 can be used to calibrate both the H_2S and SO_2 monitors.

The Model OA350 ozone analyzer has its own calibration system which provides a zero check and a span check. The ozone calibration system is verified by comparison to a calibrated ozone generator maintained in Radian's laboratory in Rifle.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air, the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

The Hi-Vol particulate samplers were calibrated using a Calibration Kit from General Metal Works.

C. Data Acquisition System

The basis of the data acquisition system is a Data General NOVA 1200 minicomputer. The NOVA, which has a basic cycle time of 1.2 μsec, is equipped with automatic program load and power fail/automatic restart features. The computer utilizes 16K 16-bit words of core memory. Analog-to-digital conversion is accomplished via an ADC built by Radian Corporation. The input/output unit for the system is Texas Instrument's KSR 733 keyboard/printer. This model teletype provides keyboard entry and hard copy printed output. The data are also recorded on a cassette magnetic tape unit with three drives. The cassette unit is utilized for program storage and loading as well as recording. To reduce wear on mechanical parts, the power to the teletype and cassette units is turned on only when the unit(s) is (are) to be used. Several important functions in the instruments as well as in the computer and the trailer are monitored by means of lights on a System Status Panel. These data lights are written onto cassette tape to monitor the complete status of the system every five minutes. The Data Acquisition System also monitors the presence of 100V power from the power lines. In its absence, the computer, which is powered by batteries, switches all trailer

systems to battery-provided power. If the line voltage is restored before the batteries are discharged to a specified level, the trailer system is switched back to line power.

D. Meteorological Instrumentation

200-Foot Meteorological Tower

The tower has instrumentation at four levels: 8 feet, 30 feet, 100 feet, and 200 feet. At all four levels, there are: wind speed, wind direction, and temperature and relative humidity sensors in a power-aspirated radiation shield. Temperature difference thermistors (also in power-aspirated radiation shields) and their associated circuitry take lapse rate measurements for the 30-foot to 100-foot layer and the 30-foot to 200-foot layer. In addition, this site has a Precision Spectral Pyranometer, a barometer, and a tipping bucket rain/snow gage.

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather coaxial cup and damped vane assembly. The prototype model has been in operation for years under the most demanding weather conditions, performing continuously with the utmost reliability. All of the wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery).
- Flow Coefficient: 7.9 feet/Revolution.
- Accuracy: ±0.4 mph or 1% (whichever is greater).

Wind Direction

- Starting Threshold: 0.75 mph.
- Delay Distance: 4 feet (50% recovery).
- Damping Ratio: 0.5 to 0.6.
- Accuracy (540° system): ±1%.
- Range: 0° to 540°.

The relative humidity and temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model 840 Series by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. Ambient air is drawn into the shield and across the sensors at approximately 15 feet per second. This intake air is essentially sampled from a hemispherical space which is approximately 3-inch radius from the tube opening. Speed of the incoming air at the periphery of this hemisphere is approximately 1 mph.

The temperature sensor is comprised of a dual thermistor and resistor network. This circuit provides a linear resistance change with an air temperature change. The relative humidity sensor is placed alongside the temperature elements inside the shield where it is exposed to a constant flow of air. Circulation to both sides of the sensing element produces accurate monitoring with a good response time. The specifications on the sensing elements are as follows:

Temperature

- Accuracy: ±0.25°C.
- Range: -50°C to +50°C.

Humidity

- Accuracy: ±3.0% RH.
- Range: 0% to 100% Relative Humidity.

Measurements of temperature difference are taken for two layers, the 30-foot to 100-foot and the 30-foot to 200-foot layer. The thermistors and circuitry used for these measurements are separate from the thermistors measuring air temperature. The use of separate thermistors and circuitry to measure ΔT allows for much greater accuracy and resolution in the measurements, which is necessary for stability assessments. Two ΔT thermistors are at the 30-foot level, one is at the 100-foot level, and one is at the 200-foot level. All of these ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT instrumentation are as follows:

- Accuracy: ±0.1°C.
- Range of T Circuit (Lower Level-Upper Level): +9F° to -9F°.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The meteorological tower itself is a 200-foot Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with ½" of radial ice per EIA Standard RS-222-B, to

support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12-feet long, three outside work platforms, an inside ladder for climbing, two base ground kits and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specifications.

The signals from the tower instrumentation are fed from multiple signal cables into transmitters mounted at the base of the tower. After signals have been converted to analog signals, they are fed into a junction box, also at the tower base, where they are assimilated into one coaxial cable. The signals are then run underground within 3" PVC conduit to the A-to-D assembly, where they are processed. The transmitters are shielded and insulated from the elements. The signal cable is run underground in PVC conduit in order to minimize damage from the weather or various rodents in the region.

The auxiliary equipment at the tower site consists of a heated tipping bucket rain/snow gage, an analog barometer, and a Precision Spectral Pyranometer. The rain/snow gage is the Model P511-E unit by Weather Measure. In the case of this gage, the durability and reliability of a tipping bucket gage are combined with heavy-duty electric heaters to make this an all-purpose precipitation sensor. This gage may be used to measure snowfall and rainfall. An insulating cover of poly-vinyl chloride and a thermostatic control insure the proper gage temperature. The thermostatic control is adjustable from 0 to 35°C. Snow falling into the inlet funnel is melted. The resulting water (from rain or snow) drains into a precision tipping bucket mechanism which activates a mercury switch each time the bucket fills and tips. The gage is constructed of durable corrosion-resistant materials to provide many years of service. The

specifications for this gage are as follows:

- Orifice: 8 inches.
- Calibration: 0.01 inch.
- Accuracy: 0.5% (Calibrated at 0.5 in/hr).
- Sensor: Chrome-plated tipping buckets.
- Switch: Mercury, 0.1-second closure.
- Heat Control: Thermostat adjustment, 0 to 35°C.

The barometer is the B242 Analog Output Barometer by Weather Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on this instrument, which is mounted inside the monitoring trailer at the site, are as follows:

- Range: Specially designed for the 100 millibar interval from 725 millibars to 825 millibars.
- Resolution: Infinite.
- Linearity: ±0.5 millibar, over the 100 millibar interval.

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 4½ feet from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- Sensitivity: 5 mv. per cal/cm°/min.
- Independence: 300 ohms.
- Temperature dependence: Sensitivity constant to within ±1 percent over the ambient temperature range from -20 to +40°C.

- Linearity: Response linear up to intensities of 4 cal/cm^2/min.
- Response time: 1 second (i/e signal).

All instrumentation is factory-calibrated and is field-calibrated at various intervals. Sling psychrometers are used to calibrate the humidity sensors, known temperatures and/or resistances are used to calibrate the thermistors, and an rpm calibrating unit is used to calibrate the anemometers. The wind direction instrumentation is aligned to true north (reference direction) by means of a surveyor's transit.

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES

The Piceance Creek Valley and C-b Shale Oil Tract are situated such that many microscale meteorological phenomena affect the region where the ambient air monitoring unit is located. Trailer 023 and its associated 200-foot meteorological tower are located atop a plateau to the south of the valley, high enough to be affected mostly by gradient flow conditions.

The elevation at the meteorological tower site (Trailer 023) is 6940 feet above sea level. The largest gradients in elevation in this area, of course, occur at the Piceance Creek Valley walls. However, the northern valley walls are slightly steeper than those at the southern boundary of the valley, which then slopes upward gradually toward the C-b Tract. The Piceance Creek Valley decreases in elevation from east to west in this area, so that nighttime katabatic cold-air drainage flows advect from east to west.

Site 023 is approximately 2.5 miles south of the Piceance Creek Valley. This location is relatively high compared to its surroundings, with the nearest points having elevations greater than 7000 feet being .5 miles to the south of the tower. The tower itself is on the top of a small knoll located between Scandard and Sorghum Gulches. Because of its location and the irregularities of the surrounding terrain, meteorological patterns are varied here.

Wind instrumentation is mounted at four levels of the meteorological tower: 8 feet, 30 feet, 100 feet, and 200 feet. The top level of the tower generally remains in gradient wind flow. That is, the winds at that level are normally generated

by synoptic-scale features and are usually separated from terrain features and micrometeorological circulations. Occasionally, a weak anabatic flow influence is experienced. However, such is not the case with the three lowest measurement levels. To varying degrees, these levels are influenced by both the katabatic and anabatic circulation cells. However, when strong pressure gradient forces exist in the region and the synoptic-scale wind flow is strong, all four tower levels will reflect a gradient wind flow, with the winds increasing in strength with increasing height.

The terrain atop the plateau is generally barren and fairly rugged, with a few scattered small trees. The topsoil dries rapidly and is very fine, resulting in blowing dust when dry, windy conditions exist. In the Piceance Creek Valley, the terrain is fairly grassy and flat, with steep valley walls on either side. Surface winds are normally rather light in this valley unless channelling effects occur.

During clear nights with rather light pressure gradient-induced winds, rapid radiational cooling will occur in the region because of the barren nature of the terrain and the generally dry character of the air in this portion of the country. As a result, the diurnal range of temperatures will be extremely large. Because of the katabatic flow in the valley, nighttime temperatures will generally be lower in the valley than on the plateau. During the winter, especially, temperatures in the valley may be 20F° lower than they are on the plateau during the early morning hours.

IV. OPERATING TIME ANALYSIS FOR EACH SITE

This section presents the operating statistics for each of the major subsystems contained in the monitoring station. Table I shows the specific number of hours that each of these subsystems was inoperative for the month. The column labeled "DIGITIZING SYSTEM" indicates the entire data acquisition system; therefore, downtime hours appearing in this column means total loss of data. These instances include, in addition to computer downtime, power failures, no power available, and self-automated shutdown periods such as during air conditioner malfunctions.

Calibration time is not considered to be downtime and is, therefore, not included in the downtime figures. The amount of time used in calibrating the instruments is given at the bottom of the downtime analysis table and is reported as total calibration hours for each channel for the entire month. As is evident in the calibration figures, channels can be calibrated independently of one another. No calibration time is given for particulate monitoring since Hi-Vol calibration occurs infrequently and only during the off-duty cycle for each Hi-Vol while another Hi-Vol is taking data.

RADIAN CORPORATION

TABLE I.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	DIGITIZING SYSTEM	NOX	NO	SO2	WS	WD	RH	TOUT	PYR	H2S	VOLT	THC	CH4	CO	O3	PRES	RAIN	PART
1/ 1	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	23.	0.	0.	24.	0.	0.	0.	0.
1/ 2	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	21.	0.	0.	24.	0.	0.	0.	0.
1/ 3	0.	2.	2.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	24.	0.	0.	0.	0.
1/ 4	0.	9.	9.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	24.	0.	0.	0.	0.
1/ 5	0.	13.	13.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	24.	0.	0.	0.	0.
1/ 6	0.	1.	1.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	24.	0.	0.	0.	0.
1/ 7	0.	9.	9.	0.	0.	0.	24.	0.	0.	5.	20.	5.	0.	24.	0.	0.	0.	0.
1/ 8	0.	5.	5.	0.	0.	0.	24.	0.	0.	24.	20.	24.	0.	24.	0.	0.	0.	0.
1/ 9	2.	14.	14.	0.	0.	0.	22.	0.	0.	9.	18.	22.	0.	22.	0.	0.	0.	24.
1/10	0.	24.	24.	0.	0.	0.	24.	0.	0.	0.	20.	24.	0.	24.	0.	0.	0.	24.
1/11	0.	23.	23.	0.	0.	0.	24.	0.	0.	0.	20.	13.	0.	23.	0.	0.	0.	0.
1/12	1.	23.	23.	0.	0.	0.	23.	0.	0.	0.	19.	0.	0.	23.	0.	0.	0.	0.
1/13	0.	23.	23.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	13.	0.	0.	0.	0.
1/14	2.	14.	14.	0.	0.	0.	22.	0.	0.	0.	19.	0.	0.	0.	0.	0.	0.	0.
1/15	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/16	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/17	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	7.	7.	7.	0.	0.	0.	0.
1/18	1.	13.	13.	0.	0.	0.	23.	0.	0.	0.	19.	19.	19.	19.	0.	0.	0.	0.
1/19	0.	15.	15.	0.	0.	0.	24.	0.	0.	0.	20.	14.	14.	14.	0.	0.	0.	0.
1/20	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/21	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/22	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/23	0.	23.	23.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/24	0.	10.	10.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/25	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/26	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/27	0.	8.	8.	0.	0.	0.	24.	0.	0.	0.	22.	0.	0.	0.	0.	0.	0.	24.
1/28	0.	12.	11.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/29	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/30	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
1/31	0.	13.	13.	0.	0.	0.	24.	0.	0.	0.	20.	0.	0.	0.	0.	0.	0.	0.
CAL TIME		14.	14.	14.	0.	0.	0.	0.	0.	14.	0.	10.	10.	10.	11.	0.	0.	

TABLE I.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	DIGITIZING SYSTEM	WS1	WD1	RH1	TMP1	WS2	WD2	RH2	TMP2	WS3	WD3	RH3	TMP3	WS4	WD4	RH4	TMP4	DT1	DT2
1/ 1	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.
1/ 2	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.
1/ 3	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.
1/ 4	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 5	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 6	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 7	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 8	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 9	2.	0.	0.	0.	1.	0.	0.	22.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/10	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/11	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/12	1.	0.	0.	0.	0.	0.	0.	23.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/13	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/14	2.	0.	0.	0.	0.	0.	0.	22.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/15	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/16	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/17	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/18	1.	0.	0.	0.	0.	0.	0.	23.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/19	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/20	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/21	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/22	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/23	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/24	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/25	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/26	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/27	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/28	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/29	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/30	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/31	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CAL TIME		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE I.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	BWS1	HWD1	VWD1	BWS2	HWD2	VWD2	BWS3	HWD3	VWD3	WSD1	WSD2	WSD3	WSD4	HSD1	VSD1	HSD2	VSD2	HSD3	VSD3
1/ 1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
1/ 4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
1/ 5	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	0.	1.	0.	0.	0.
1/ 6	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
1/ 7	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/ 8	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	2.	0.	0.	0.	0.	0.
1/ 9	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	0.	1.	0.	1.	0.
1/10	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/11	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	0.	1.	0.	1.	0.
1/12	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.
1/13	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.	1.	1.	0.	0.	0.	0.	0.
1/14	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	2.	1.	0.	1.	0.	1.	0.
1/15	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/16	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.
1/17	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
1/18	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.	0.	0.	1.	0.
1/19	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	2.	2.	1.	1.	0.	1.	0.	2.	0.
1/20	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	0.	1.	0.	1.	0.
1/21	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.	0.	1.	0.	0.	0.
1/22	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/23	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	2.	2.	0.	1.	0.	1.	0.
1/24	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.	0.	2.	0.	2.	0.
1/25	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.
1/26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1/28	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.	0.	1.	0.	0.	0.
1/29	0.	0.	0.	0.	1.	0.	0.	0.	0.	3.	2.	3.	2.	2.	0.	3.	0.	1.	0.
1/30	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	2.	0.	2.	0.
1/31	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CAL TIME	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

V. MONTHLY METEOROLOGICAL SUMMARY

A. Summary of the Meteorological Conditions in North America during January 1977

January 1977 brought colder than normal temperatures to all sections of the United States except for the West Coast. Monthly precipitation totals were mostly below normal west of the Continental Divide. East of the Continental Divide, monthly precipitation totals were normal or slightly above normal. An exception occurred along the Atlantic Seaboard and in the central portions of the country, where precipitation totals were slightly below normal and below normal, respectively. The long wave circulatory pattern for January featured a mean ridge in the western United States and a well developed long wave trough in the eastern United States. The ridge in the West accounted for the below normal precipitation in that section of the country. The trough in the East accounted for the extremely cold temperatures in that portion of the country.

The long wave circulation was meridional (north-south) on the 3rd, 4th, and the 8th through the 20th. Split flow occurred on the 1st, 2nd, from 5th through the 7th, and from the 21st through the 31st.

Extratropical low pressure systems were frequent in the United States during January because of the strength of the polar front jet stream. Numerous low pressure systems developed during the month, affecting primarily the Great Lakes. The dates of occurrence and locations of these low pressure systems are as follows:

2nd: Pacific Northwest
3rd: Great Basin
4th: Great Plains, Central Rockies
6th: Northern Great Lakes
7th: Northern Great Plains, Atlantic Seaboard
9th: Gulf Coast
10th: Great Lakes
15th: Great Lakes
16th: New England
24th: Northern Great Lakes
25th: Atlantic Seaboard
26th: Northern Great Lakes, New England
27th: Northern Great Lakes
28th: Great Lakes
29th: New England

On a sectional basis, the following temperature and precipitation anomalies existed during January:

Section	Temperature	Precipitation
Northeast	Much below normal	Variable; mostly slightly above normal
Atlantic Seaboard	Very much below normal	Slightly below normal
North Central	Very much below normal	Variable; mostly slightly below normal
Central	Very much below normal	Below normal
Southeast	Very much below normal	Near normal
Southwest	Much below normal	Variable; mostly slightly above normal
Rockies	Below normal	Variable; mostly below normal
West and Pacific Northwest	Near normal	Below normal

B. Summary of the Meteorological Conditions in Northwestern and West Central Colorado during January 1977

Grand Junction, Colorado, sixty miles to the south-southwest of the Tract C-b, received a total of 0.37 inch of precipitation during January, which is 0.27 inch below the monthly normal of 0.64 inch. Grand Junction received 4.2 inches of snow during January. Measurable precipitation occurred on the 3rd, 5th, 8th, 16th, 22nd, and the 23rd. The region received 78 percent of the possible monthly sunshine. Sky cover by cloudiness averaged 5.5 out of a possible 10 during the daylight hours and 4.7 out of a possible 10 during the entire month. The region had eleven clear days, seven partly cloudy days, and thirteen cloudy days during the month.

Air mass changes were infrequent during January. Only two frontal passages occurred during January. These frontal passages occurred early in the month, when some upper-level troughing dominated the Tract C-b. During the last half of January, an upper-level ridge dominated the Tract C-b and no frontal passages occurred. Temperatures in the Tract C-b were cool due to seasonal influences. Transport winds over the region as a whole were approximately the same in January as they were in December. A maritime polar cold frontal passage occurred on the 3rd and a continental polar cold frontal passage occurred on the 8th.

C. Summary of the Meteorological Conditions in the Oil Shale Tract C-b Region during January 1977

An upper-level ridge which had a mean position over the western United States was responsible for the below normal precipitation totals which occurred in the Tract C-b region during January. The ridging pattern was broken by a short-lived troughing pattern which occurred in the area during the first half of January. Four of the six days on which precipitation occurred were during the first half of January. These days were the 3rd, 5th, 8th, and 16th. Precipitation also occurred on the 22nd and 23rd in association with the passage of a minor trough. Temperatures in the Tract C-b region were below normal during January; however, most of the extremely cold continental polar air masses were directed toward the eastern half of the United States during the month.

One maritime polar cold frontal passage and one continental polar cold frontal passage occurred during January. The continental polar front of the 8th was the colder of these two fronts.

The monthly average temperatures recorded at the meteorological tower during January were: 23.5°F at 8 feet; 22.6°F at 30 feet; 22.8°F at 100 feet; and 21.3°F at 200 feet. These averages are approximately 4F° lower than those recorded in December. The warmest days of the month were the 18th through the 22nd. The coolest days were the 5th through the 10th. The highest temperature recorded at the meteorological tower during January was 47°F at the 8-foot level on the 18th and 21st. The coldest temperature recorded at the meteorological tower was -6°F at the 200-foot level on the morning of the 9th.

Monthly average relative humidities during January were much higher than they had been in December in the Tract C-b region. This increase can be attributed to both a decrease in monthly average temperatures and an increase in the average moisture content of the air during January. At the meteorological tower, the monthly average relative humidities were: 73.9 percent at 8 feet; 76.0 percent at 100 feet; and 70.3 percent at 200 feet. These relative humidities correspond to dew points of 17°F, 16.5°F, and 12.5°F, respectively. The relative humidity sensor at the 30-foot level was inoperative for most of the month. The most humid days of the month were the 5th, 22nd, and 23rd. The driest days were the 10th, 11th, 12th, 21st, 29th, 30th, and 31st.

Winds on the meteorological tower during January were slightly stronger on the average than the winds that prevailed during December. Resultant wind vectors at the meteorological tower during January were: 190.0 degrees at 2.2 miles per hour at 8 feet; 189.6 degrees at 3.2 miles per hour at 30 feet; 193.4 degrees at 4.1 miles per hour at 100 feet; and 203.7 degrees at 5.1 miles per hour at 200 feet.

The scalar average wind speeds associated with these resultant wind vectors were 4, 5, 6, and 7 miles per hour, respectively. The Ekman spiral and Ekman effect, i.e., a veering in direction and increase in speed as a function of increasing height above the surface, were in evidence during most of January. A reference to the January wind roses for the meteorological tower indicates that the winds at that location were primarily south-southwesterly at all four levels, with a relatively high frequency of occurrence of southerly winds in addition.

The windiest days of the month at the meteorological tower were the 1st, 2nd, and 3rd. The days having the lightest winds were the 5th, 14th, and 30th. The highest five-minute average wind speed recorded at the tower during January was 33 miles per hour at the 200-foot level on the 3rd.

Precipitation totals in the Tract C-b Monitoring Network during January were generally very much below normal. Only 0.06 inch of precipitation was recorded at the meteorological tower during January. The largest daily precipitation total recorded in the network during January was 0.06 inch on January 3rd. The greatest five-minute precipitation total recorded during the month was 0.02 inch (a precipitation rate of 0.24 inch/hour), recorded on the 3rd. Measurable precipitation ($\geq$.01 inch) was recorded at the meteorological tower on only one day during the month. This precipitation, on the 3rd, was in the form of snow.

The monthly average station pressure during January was 788.1 millibars at the meteorological tower. This reading is 2.4 millibars lower than the December average station pressure of 790.5 millibars. The highest daily average station pressures occurred from the 16th through the 20th. The lowest daily average station pressures occured on the 3rd and the 8th.

Cloudiness increased slightly in the Tract C-b region during January, compared to the December cloud cover and insolation statistics (although January insolation totals exceeded December insolation totals). The region received an insolation total of 6037.8 langleys, which is equivalent to a daily average insolation total of 195 langleys/day. This average is slightly below the normal for January of 230 langleys/day in the Tract C-b region. On a diurnal basis, the greatest solar radiation rates occurred between 1200 and 1300 hours. The greatest daily radiation totals were received from the 24th through the 31st. The lowest daily solar radiation totals were received on the 3rd, 5th, 16th, 22nd, and 23rd. The greatest five-minute radiation total received during January was 5.60 langleys (a rate of 1.12 langleys/minute), which occurred on the 25th. The largest hourly insolation total received during January was 66 langleys, which occurred on the 25th between 1100 and 1200 hours.

The insolation totals on the 25th are unusually high for a day during the month of January. However, the 25th was a clear day in the Tract C-b. Hence, the transmissivity of sunlight was very high through a relatively thin atmosphere which contained little water vapor. Therefore, the high insolation totals on the 25th can be justified.

Because of the progressively increasing solar elevations and the increasingly longer periods of daylight that prevailed during January, the total possible solar radiation which could be received during a day increased monotonically throughout the month.

The slight increase in insolation which affected the Tract C-b during January caused the unstable stability classes to become more common than they had been in December. Using the Pasquill method of stability determination, "C" stability (slightly unstable) was the most common stability, occurring during 151 daytime hours, or 52.8 percent of the time. In decreasing order of frequency, "D" (neutral) stability occurred during 96 hours, or 33.6 percent of the time, and "B" (very unstable) stability occurred during 38 hours, or 13.3 percent of the time. "A" (extremely unstable) stability occurred during only one daytime hour.

Using the lapse rate method of stability determination $\left(\frac{dT}{dZ}\right)$, the neutral ("D"), slightly stable ("E"), and extremely stable ("F") stability classes were the most prevalent during January. In general, stable and/or neutral conditions prevailed during the nighttime hours and unstable and/or neutral conditions prevailed during the day. The following table is a diurnal breakdown of the various stability classes. As one proceeds from "A" to "F", the stability class ranges from extremely unstable to extremely stable. The column labeled "number of occurrences" indicates the number of times a particular stability class occurred during the month on an hourly basis. Level I presents the temperature change versus height values $\left(\frac{dT}{dZ}\right)$ that were considered between 30 feet and 100 feet. Level II indicates the values that were considered between 30 feet and 200 feet.

Using the standard deviation of the horizontal wind (σ_Θ) method of stability determination, "D" stability was the most common stability classification at the meteorological tower because of the moderately strong winds that normally occurred at that location. The stability distributions for the 30-, 100-, and 200-foot levels were similar. The 8-foot level of the tower exhibited higher percentages of the unstable classes because of excessive mechanical turbulence.

The bivanes at the 100- and 200-foot levels of the meteorological tower indicated a pattern of upward vertical motion (negative vertical directions) during the month, while the 30-foot level indicated a pattern of downward vertical motion during January. Upward vertical motion was more pronounced during the nighttime hours at the 100-foot level during January (probably because of lower wind speeds), but this diurnal pattern was reversed (i.e., upward motions were less pronounced) at the 200-foot tower level. At the 30-foot level, downward vertical motions were greatest during the daytime hours, a result which is quite unusual considering the proximity of the sensing level to the ground.

The σ_Θ values obtained at the 30-, 100-, and 200-foot levels using the bivanes compared favorably with the σ_Θ values obtained at those levels using the standard wind instrumentation.

LEVEL I $(\frac{dT}{dZ})$ 30 feet to 100 feet

Stability Class/Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:	0	0	0	0	0	0	0	0	0	2	8	19	14	7	6	4	1	0	0	0	0	0	0	0	61
B:	0	0	0	0	0	0	0	0	0	3	7	4	10	17	16	14	4	0	0	0	0	0	0	0	75
C:	0	0	0	0	0	0	0	0	0	5	5	2	2	1	2	6	7	0	0	0	0	0	0	0	30
D:	4	3	3	4	5	5	5	3	6	8	8	6	5	6	6	7	18	17	7	6	5	3	3	4	147
E:	6	7	7	5	4	3	5	7	7	9	1	0	0	0	0	0	1	13	15	13	9	12	7	7	138
F:	21	21	20	22	22	23	21	21	18	4	0	0	0	0	0	0	0	1	9	12	17	16	21	20	289

A: extremely unstable
B: very unstable
C: slightly unstable
D: neutral
E: slightly stable
F: extremely stable

LEVEL II $(\frac{dT}{dZ})$ 30 feet to 200 feet

Stability Class/Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:	3	1	1	1	2	1	2	2	3	10	17	21	14	8	7	5	10	9	3	5	3	2	1	2	133
B:	2	1	2	4	2	3	2	2	2	2	5	4	10	16	16	19	15	9	3	3	4	4	4	3	137
C:	2	3	3	1	1	1	1	1	2	3	2	1	2	1	2	2	5	3	5	3	2	1	1	2	50
D:	7	9	4	7	5	9	7	6	8	9	5	5	5	6	5	5	1	8	10	9	8	8	5	4	155
E:	14	10	12	11	16	11	12	10	9	6	0	0	0	0	0	0	0	2	9	6	11	14	18	17	188
F:	3	7	8	7	5	6	7	10	7	1	0	0	0	0	0	0	0	0	1	5	3	2	2	3	77

VI. DATA PRESENTATION AND SUMMARY

This section includes summaries for various recorded data at the monitoring sites. The data presentations indicate the variability of pollutant concentrations and meteorological parameters with location and time. In addition, the presentations indicate the functional dependence of pollutant concentration with wind direction. All data except suspended particulates (24-hour samples) are sampled once each second, but recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values, and is especially evident when comparing wind gusts to local weather bureau data.

Inherent to any data acquisition system is random noise both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for all instruments, except for the ozone analyzer, for which it is 0.5 ppb. Therefore, any values appearing in the data presentations that are less than 5 ppb indicate only a trace of pollutant in question and should not be construed to be absolute levels. In addition, the recorded quantity is simply random noise and averages tend toward zero. Thus, when concentrations are below the lower threshold of the analytical instruments they may appear as a zero entry in the data presentation which does not indicate absolute zero concentration.

All pollutant data (except for particulate data) is taken at the monitoring site in integer parts per billion (ppb) but is presented here in micrograms per cubic meter ($\mu g/m^3$)

assuming standard temperature and pressure of 25°C and 760 mmHg (1013.2 millibars), respectively. The scale factors required to convert μg/m³ at standard conditions back to ppb for the various pollutants are given in the following table.

POLLUTANT	TO CONVERT μg/m³ AT 25°C AND 760 mmHg TO ppb MULTIPLY BY
NO_x	.534
NO	.534
NO_2	.534
SO_2	.384
H_2S	.723
THC	1.536
CH_4	1.536
CO	.877
O_3	.512

The units of the meteorological parameters are given in the table. It should be noted here that inside temperature is monitored and recorded as a functional part of the system but is not presented in this report.

Table III displays the monthly statistics for each monitoring station for the month. To insure statistical significance, and to reduce the possibility of introducing a bias in the presentation, averages are computed only when at least 50 percent of the samples are present, except for relative humidity and temperature, in which case 75 percent of the samples is required. If less than the required samples are present for a particular parameter, that entry will be blank. The number of

samples present for a particular channel is defined as the total possible number of five-minute samples for the averaging time less the computer downtime less the channel downtime less the channel calibration time. The averages in Table III are arithmetic averages with the following exceptions:

- Wind speed and wind direction are computed using a vector averaging technique where the wind speed is treated as the vector magnitude.

- Particulate averages are computed as the geometric mean.

Table IV displays the daily averages. Again, 50 percent of the five-minute samples are required in order to compute an average except for the cases of relative humidity and temperature which require 75 percent. A blank entry indicates an insufficien number of five-minute samples present for that day. Wind speed, wind direction, and particulate averages are computed the same way as described in Table III.

Table V presents the maximum daily five-minute average retained in the data base as well as the time of occurrence. A five-minute maximum average is printed if any samples are present for that day. Therefore, the maximum five-minute average for a channel which experienced considerable downtime or calibration time during the day in question may be misrepresentative of the maximum expected for that channel on that day.

Table VI indicates the five largest averages for various averaging times. The table shows the period of time covered by the average. Maxima are chosen so that time segments

are independent. The maximum averages reported are found using a 'sliding average' technique with the exception of the 24-hour particulate average, which is computed from midnight to midnight. For averaging times less than or equal to three hours, the sliding average is stepped one five-minute sample at a time. For longer averaging times the step size is twelve samples or one hour. For averaging times less than or equal to one hour 100 percent of the five-minute samples must be present to compute an average. Averaging times greater than one hour require 90 percent. Whether or not a sliding average is computed is solely determined by the number of samples present in that averaging time and is independent of daily and monthly averaging criteria.

To demonstrate the functional dependence of recorded parameters upon wind direction, Table VII shows pollutant concentration displayed in a bi-variate distribution with wind direction. The tables display the total number of five-minute samples occurring in each concentration and wind speed class. The mean concentration for all samples occurring in each wind class are also shown. This distribution demonstrates the dependence of high pollutant concentrations upon wind direction. Appendix A shows the stability wind rose diagrams.

The wind speed classifications used in Appendix A are based on the Beaufort wind scale classification system. This is a system of estimating and reporting wind speeds, invented in the early nineteenth century by Admiral Beaufort of the British Navy. It was originally based on the effects of various wind speeds on the amount of canvas that a full-rigged frigate of the period could carry, but has since been modified and modernized. In its present form for international meteorological use it equates: (a) Beaufort force (or Beaufort number); (b) wind speed;

(c) descriptive terms; and (d) visible effects upon land objects or the sea surface. One land adaptation is the NRM wind scale.

The six basic wind speed classifications used in the report are: 1-3 knots, 4-6 knots, 7-10 knots, 11-16 knots, 17-21 knots, and winds of greater than 21 knots. The following table is a complete description of the Beaufort Wind Scale, taken from Physical Climatology, by Helmut Landsberg, 1969.

BEAUFORT WIND SCALE FOR OBSERVATIONS AT LAND STATIONS

Force	Explanatory Title	Specification for Use	Corresponding Limits of Wind Speed at 10 meters ab.grd.				
			Mi/hr.	Knots	Km/hr.	M/sec.	Ft/sec.
0	Calm............	Smoke rises vertically....................	<1	<1	<1	0.3	1
1	Light air........	Direction of wind shown by smoke drift, but not by wind vanes....................	1-3	1-3	1-5	0.3-1.5	1-5
2	Light breeze.....	Wind felt on face:leaves rustle:ordinary vane moved by wind.....................	4-7	4-6	6-11	1.6-3.3	6-11
3	Gentle breeze....	Leaves and small twigs in constant motion;wind extends light flat...........	8-12	7-10	12-19	3.4-5.4	12-18
4	Moderate breeze..	Raises dust and loose paper:small branches are moved........................	13-18	11-16	20-28	5.5-7.9	19-26
5	Fresh breeze.....	Small trees in leaf begin to sway:wavelets formed on inland waters...........	19-24	17-21	29-38	8.0-10.7	27-35
6	Strong breeze....	Large branches in motion:whistling heard in telegraph wires:umbrellas used with difficulty............................	25-31	22-27	39-49	10.8-13.8	36-45
7	High wind........	Whole trees in motion:inconvenience felt when walking against wind..............	32-38	28-33	50-61	13.9-17.1	46-56
8	Fresh gale.......	Breaks twigs off trees:generally impedes progress...............................	39-46	34-40	62-74	17.2-20.7	57-68
9	Strong gale......	Slight structural damage occurs (chimney pots and slates removed)................	47-54	41-47	75-88	20.8-24.4	69-80
10	Whole gale.......	Seldom experienced inland:trees uprooted: considerable structural damage occurs...	55-63	48-55	89-102	24.5-28.4	81-93
11	Storm...........	Very rarely experiences:accompanied by widespread damage......................	64-72	56-63	103-117	28.5-32.6	94-106
12	Hurricane........	....	73-82	64-71	118-133	32.7-36.9	107-121
13	....	....	83-92	72-80	134-149	37.0-41.4	122-136
14	....	....	93-102	81-89	150-166	41.5-46.1	137-151
15	....	....	104-114	90-99	167-183	46.2-50.9	152-166
16	....	....	115-125	100-108	184-201	51.0-56.0	167-183
17	....	....	126-136	109-118	202-220	56.1-61.2	184-201

Source: Table 36 (p.119) in R.J. List (1951):Smithsonian Meteorological Tables:Smithsonian Miscell.Coll.Vol. 114.

Table VIII demonstrates the diurnal variation of various recorded parameters. Hourly averages are determined by arithmetically averaging five-minute samples, except for wind direction averages which are computed vectorially assuming unit vector magnitudes. Totals in the diurnal wind direction tables are vector averages of the columns and rows. For all parameters, a blank entry in the diurnal variation table indicates that less than half (i.e., less than 6) of the five-minute samples for that hour are present.

All times given in the data presentation are Mountain Standard Time.

To facilitate comparison of recorded concentrations to ambient air quality standards, the following regulations are presented.

TABLE II

FEDERAL AND COLORADO STANDARDS

	Primary	Secondary	Non-Designated Area	Designated Area		
				1973	1976	1980
Particulate						
Annual G. M.	75 $\mu g/m^3$	60 $\mu g/m^3$	45 $\mu g/m^3$	70 $\mu g/m^3$	55 $\mu g/m^3$	45 $\mu g/m^3$
24 Hr. Max.*	260	150	150	200	180	150
Sulfur Oxides						
Annual	80(.03ppm)		--	60(.02ppm)	25(.009ppm)	10(.004ppm)
24 Hr. Max.*	365(.14ppm)		15(.005ppm)	300(.1ppm)	150(.05ppm)	55(.02ppm)
3 Hr. Max.*	--	1300(.5ppm)	--	--	--	--
1 Hr. Max.**	--	--	--	800(.28ppm)	300(.1ppm)	--
Oxidant						
1 Hr. Max.*	160(.08ppm)	160				
8 Hr. Max.*	--	--				
Annual	--	--				
Hydrocarbons						
3 Hr. Max.* 6-9 a.m.	160(.24ppm)	160				
Carbon Monoxide						
Max. 8 Hrs.*	10000(9ppm)	10000				
Max. 1 Hr.*	40000(35ppm)	40000				
Nitrogen Dioxide						
Annual	100(.05ppm)	100				

Units are micrograms per cubic meter and ppm in parenthesis.

*Not to be exceeded more than once per year.

**Not to be exceeded more than once per month.

TABLE III

AVERAGES FOR JANUARY 1 THRU 31

RADIAN CORPORATION

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                          TABLE III. AVERAGES FOR JAN   1 THRU 31
          (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
               TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
               PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

        NITROGEN OXIDES(NOX)            NITRIC OXIDE(NO)               NITROGEN DIOXIDE(NO2)

SITE     023                          023                            023
          .8                           .3                             .5
---------------------------------------------------------------------------------------------

        SULFUR DIOXIDE(SO2)              PYRANOMETER                    HYDROGEN SULFIDE

SITE     023                          023                            023
         1.7                       6037.6                             .4
---------------------------------------------------------------------------------------------

        TOTAL HYDROCARBONS                 METHANE                  NON-METHANE HYDROCARBONS

SITE     023                          023                            023
      1061.3                        872.3                          196.8
---------------------------------------------------------------------------------------------

         CARBON MONOXIDE                    OZONE                     BAROMETRIC PRESSURE

SITE     023                          023                            023
       326.5                         70.3                          768.1
---------------------------------------------------------------------------------------------

        TOTAL PRECIPITATION              PARTICULATE

SITE     023                          023
         .06                          3.3
---------------------------------------------------------------------------------------------
```

```
                         TABLE III. AVERAGES FOR JAN   1 THRU 31
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
              TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                      WIND SPEED

SITE 023
     (  8-FT)            ( 30-FT)            (100-FT)            (200-FT)
       2.2                 3.2                 4.1                 5.1
----------------------------------------------------------------------------------------

                                    WIND DIRECTION

SITE 023
     (  8-FT)            ( 30-FT)            (100-FT)            (200-FT)
     190.0               189.6               193.4               203.7
----------------------------------------------------------------------------------------

                                   RELATIVE HUMIDITY

SITE 023
     (  8-FT)            ( 30-FT)            (100-FT)            (200-FT)
      73.9                                    75.0                70.3
----------------------------------------------------------------------------------------

                                      TEMPERATURE

SITE 023
     (  8-FT)            ( 30-FT)            (100-FT)            (200-FT)
      23.5                22.6                22.8                21.3
----------------------------------------------------------------------------------------
```

TABLE IV
DAILY AVERAGES FOR JANUARY 1 THRU 31

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                       TABLE IV, DAILY AVERAGES FOR JAN   1 THRU 31
          (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
               TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
               PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

        NITROGEN OXIDES(NOX)              NITRIC OXIDE(NO)              NITROGEN DIOXIDE(NO2)

    SITE   023                             023                             023
DATE
-------------------------------------------------------------------------------------------------
 1/ 1         .7                             .0                              .7
 1/ 2         .1                             .0                              .1
 1/ 3         .0                             .0                              .0
 1/ 4         .5                             .4                              .1
 1/ 5
 1/ 6        2.7                             .4                             2.4
 1/ 7        6.9                            2.9                             4.1
 1/ 8        4.0                            3.7                              .3
 1/ 9
 1/10
-------------------------------------------------------------------------------------------------
 1/11
 1/12
 1/13
 1/14
 1/15         .0                             .0                              .0
 1/16         .0                             .0                              .0
 1/17         .0                             .0                              .0
 1/18
 1/19
 1/20         .0                             .0                              .0
-------------------------------------------------------------------------------------------------
 1/21         .0                             .0                              .0
 1/22         .0                             .0                              .0
 1/23
 1/24         .1                             .0                              .1
 1/25        1.0                             .0                              .9
 1/26         .5                             .2                              .3
 1/27        1.3                             .1                             1.2
 1/28                                        .0
 1/29         .1                             .0                              .1
 1/30         .9                             .0                              .9
-------------------------------------------------------------------------------------------------
 1/31
```

TABLE IV, DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	SULFUR DIOXIDE(SO2)	PYRANOMETER	HYDROGEN SULFIDE
SITE DATE	023	023	023
1/ 1	.0	165.4	2.4
1/ 2	.0	181.5	3.4
1/ 3	.0	59.5	1.9
1/ 4	.5	153.0	.1
1/ 5	.0	53.2	.0
1/ 6	.0	106.5	.0
1/ 7	.0	184.6	.1
1/ 8	.0	111.3	
1/ 9	.5	245.8	.0
1/10	1.2	125.4	.0
1/11	.7	230.2	.0
1/12	.0	203.5	.0
1/13	.0	159.6	.1
1/14	.0	206.1	.2
1/15	.0	225.6	.3
1/16	.0	89.5	.2
1/17	.0	175.1	.2
1/18	.6	213.4	.0
1/19	.7	240.4	.1
1/20	3.8	234.9	.8
1/21	6.1	183.1	.4
1/22	4.5	60.9	.0
1/23	9.8	65.0	.0
1/24	7.8	286.7	.0
1/25	9.9	376.3	.3
1/26	5.2	281.8	.0
1/27	.2	288.8	.0
1/28	.2	283.9	.0
1/29	.0	280.9	.0
1/30	.0	283.5	.0
1/31	.0	271.9	.0

TABLE IV. DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	TOTAL HYDROCARBONS	METHANE	NON-METHANE HYDROCARBONS
SITE	023	023	023
DATE			
1/ 1	1057.4	914.3	143.1
1/ 2	1049.7	920.5	129.2
1/ 3	1031.2	910.1	121.1
1/ 4	1041.1	924.4	116.7
1/ 5	1084.3	942.5	141.7
1/ 6	1356.2	945.2	411.0
1/ 7	1430.3	930.2	497.3
1/ 8		930.6	
1/ 9		939.3	
1/10		916.6	
1/11		904.8	
1/12	1021.0	891.7	129.3
1/13	1067.9	918.6	149.3
1/14	1073.7	909.3	164.3
1/15	1058.8	907.6	151.2
1/16	1064.1	907.6	156.5
1/17	1136.7	891.4	237.2
1/18			
1/19			
1/20	991.0	900.8	90.2
1/21	988.7	882.3	106.5
1/22	1025.6	890.0	135.5
1/23	1049.0	887.3	161.7
1/24	1035.5	855.4	181.8
1/25	1018.9	822.9	195.0
1/26	956.6	791.8	164.8
1/27	855.7	778.1	77.6
1/28	967.9	782.7	185.1
1/29	1099.6	758.5	341.1
1/30	1113.7	705.5	408.2
1/31	1093.1	642.1	451.0

TABLE IV. DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	CARBON MONOXIDE	OZONE	BAROMETRIC PRESSURE
SITE	023	023	023
DATE			
1/ 1		74.1	781.3
1/ 2		69.5	782.9
1/ 3		69.0	776.6
1/ 4		64.0	781.9
1/ 5		59.4	783.3
1/ 6		69.1	790.2
1/ 7		75.2	786.7
1/ 8		66.9	779.8
1/ 9		70.8	786.1
1/10		77.7	786.9
1/11		76.9	789.7
1/12		76.8	786.6
1/13		78.2	785.8
1/14	346.3	75.6	788.0
1/15	339.9	82.0	789.4
1/16	296.2	72.3	793.1
1/17	334.2	71.9	796.9
1/18		66.7	796.6
1/19		69.7	793.7
1/20	324.9	71.1	792.7
1/21	295.3	74.5	791.0
1/22	331.3	62.3	789.6
1/23	330.2	50.[illegible]	790.2
1/24	317.2	62.0	792.0
1/25	255.9	71.7	789.9
1/26	286.3	72.1	786.6
1/27	437.9	68.9	785.7
1/28	247.2	67.8	788.2
1/29	243.2	68.6	788.0
1/30	498.0	68.8	790.8
1/31	378.2	73.5	790.7

```
                         TABLE IV, DAILY AVERAGES FOR JAN   1 THRU 31
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
              TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

          TOTAL PRECIPITATION                 PARTICULATE

     SITE   023                               023
DATE
------------------------------------------------------------------------------------------
 1/ 1                                         5.0
 1/ 2                                         1.0
 1/ 3        .06                              8.0
 1/ 4                                         3.0
 1/ 5                                         1.0
 1/ 6                                         2.0
 1/ 7                                         3.0
 1/ 8                                         2.0
 1/ 9
 1/10
------------------------------------------------------------------------------------------
 1/11                                         2.0
 1/12                                         1.0
 1/13                                         2.0
 1/14                                         3.0
 1/15                                         1.0
 1/16                                         3.0
 1/17                                         3.0
 1/18                                         2.0
 1/19                                         1.0
 1/20                                         5.0
------------------------------------------------------------------------------------------
 1/21                                         6.0
 1/22                                        22.0
 1/23                                         5.0
 1/24                                         7.0
 1/25                                         7.0
 1/26                                         5.0
 1/27
 1/28                                         5.0
 1/29                                         9.0
 1/30                                         7.0
------------------------------------------------------------------------------------------
 1/31                                         5.0
```

TABLE IV, DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
1/ 1	7.7	10.4	13.2	16.0
1/ 2	10.7	14.2	17.3	20.1
1/ 3	7.7	10.5	12.5	14.1
1/ 4	2.4	3.8	5.2	6.1
1/ 5	.9	1.7	2.1	2.4
1/ 6	1.2	1.9	2.2	2.6
1/ 7	4.0	5.9	7.9	9.4
1/ 8	2.4	3.3	3.7	4.3
1/ 9	2.1	2.8	3.4	4.1
1/10	5.4	7.7	10.1	12.5
1/11	1.1	1.9	2.6	3.7
1/12	3.4	4.9	5.6	8.2
1/13	.4	1.0	1.2	1.4
1/14	.4	.6	1.0	1.8
1/15	4.9	7.3	9.5	10.8
1/16	1.8	3.1	3.8	4.4
1/17	1.1	2.0	2.7	3.2
1/18	2.2	3.0	3.6	4.7
1/19	.3	.7	.9	1.1
1/20	1.2	2.2	2.6	3.1
1/21	1.8	2.9	3.4	3.7
1/22	.8	1.5	2.2	2.8
1/23	1.2	2.6	3.1	3.2
1/24	.1	1.3	.6	1.7
1/25	1.8	2.8	3.7	4.5
1/26	3.8	5.4	7.2	9.4
1/27	2.6	3.9	5.3	7.5
1/28	1.3	2.0	3.2	4.9
1/29	.4	.4	.8	.9
1/30	.1	.3	.3	.8
1/31	1.7	3.0	3.7	4.2

RADIAN
CORPORATION

TABLE IV. DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND DIRECTION

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
1/ 1	198.1	199.0	202.7	207.6
1/ 2	193.5	194.6	198.8	203.9
1/ 3	178.3	180.5	184.2	189.0
1/ 4	233.9	231.8	237.2	240.9
1/ 5	274.1	265.8	282.0	292.3
1/ 6	194.7	182.5	175.3	184.5
1/ 7	177.7	176.3	179.8	188.1
1/ 8	295.0	290.5	300.0	304.7
1/ 9	188.7	189.5	191.8	203.3
1/10	177.7	178.4	184.9	194.9
1/11	153.2	152.6	162.1	187.5
1/12	183.7	183.6	190.5	200.4
1/13	168.0	157.2	175.1	195.1
1/14	247.8	226.2	210.9	205.0
1/15	180.3	181.1	184.7	195.0
1/16	185.7	186.7	196.8	215.4
1/17	120.7	131.2	144.9	166.4
1/18	187.9	185.5	188.9	198.7
1/19	179.9	170.3	160.7	207.2
1/20	159.6	169.7	172.2	190.0
1/21	193.6	185.2	185.4	194.4
1/22	161.1	172.0	174.1	180.3
1/23	307.3	306.4	312.1	318.5
1/24	90.1	325.6	91.1	222.8
1/25	190.2	181.8	188.3	208.0
1/26	185.4	181.7	191.4	201.7
1/27	191.1	188.4	198.3	208.2
1/28	228.9	213.8	216.5	225.4
1/29	18.0	31.2	53.9	357.9
1/30	48.4	108.1	134.3	194.6
1/31	159.8	160.0	166.5	184.5

TABLE IV, DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

RELATIVE HUMIDITY

SITE 223

DATE	(6-FT)	(30-FT)	(100-FT)	(200-FT)
1/ 1	72.8		77.9	
1/ 2	70.0		75.7	
1/ 3	77.3		82.3	
1/ 4	82.7		85.4	74.6
1/ 5	95.6		100.0	92.7
1/ 6	88.0		92.5	82.0
1/ 7	80.4		83.3	69.1
1/ 8	80.6		92.5	79.7
1/ 9	78.7		85.1	80.1
1/10	61.5		62.9	55.3
1/11	58.1		57.4	50.6
1/12	51.6		51.2	45.4
1/13	66.2		67.2	63.8
1/14	78.4		78.7	74.8
1/15	70.5		70.9	66.5
1/16	80.0		80.2	76.1
1/17	75.6		72.5	66.2
1/18	74.4		70.6	66.6
1/19	70.9		68.1	64.0
1/20	70.0		67.0	62.9
1/21	62.8		58.0	55.4
1/22	91.2		93.1	90.3
1/23	99.8		100.0	99.5
1/24	88.3		90.6	87.3
1/25	79.1		82.9	79.4
1/26	73.2		78.7	74.7
1/27	75.6		82.4	79.5
1/28	65.9		69.4	64.8
1/29	55.8		59.2	55.2
1/30	57.2		61.0	56.8
1/31	54.3		57.8	54.5

TABLE IV. DAILY AVERAGES FOR JAN 1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

SITE 023

DATE	(10-FT)	(30-FT)	(100-FT)	(200-FT)
1/ 1	26.3	24.4	24.0	22.3
1/ 2	27.3	25.0	24.2	22.6
1/ 3	28.0	26.2	25.3	23.7
1/ 4	20.6	18.9	18.7	16.8
1/ 5	12.5	10.4	10.2	8.1
1/ 6	11.7	10.7	11.3	9.2
1/ 7	15.2	13.1	13.0	11.2
1/ 8	9.8	6.8	7.0	4.7
1/ 9	5.3	2.3	2.5	-.1
1/10	15.7	13.8	13.8	12.0
1/11	19.1	18.5	19.9	19.3
1/12	24.6	23.8	23.8	22.7
1/13	22.3	21.5	21.6	19.9
1/14	18.0	17.5	17.7	16.5
1/15	23.1	22.0	22.2	20.9
1/16	23.2	22.7	22.9	21.6
1/17	26.1	28.3	28.3	27.5
1/18	33.0	33.6	34.7	33.5
1/19	32.8	33.4	33.6	32.8
1/20	32.9	33.6	33.8	33.0
1/21	34.9	35.5	36.0	34.9
1/22	30.9	30.3	30.0	28.3
1/23	27.5	26.5	25.6	24.1
1/24	22.4	22.0	22.5	21.1
1/25	22.8	22.1	23.0	21.2
1/26	23.6	22.5	22.7	21.8
1/27	25.4	24.4	24.3	23.0
1/28	27.5	27.6	28.3	27.0
1/29	26.6	27.0	27.9	26.4
1/30	23.9	24.0	24.8	23.9
1/31	31.1	31.2	31.9	30.8

TABLE V

MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JANUARY 1 THRU 31

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       TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
   (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
          TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
          PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                NITROGEN OXIDES(NOX)

    SITE      423
DATE
------------------------------------------------------------------------------------------
 1/ 1        20.6(12:55)
 1/ 2         9.1( 0:55)
 1/ 3          .0( 0:00)
 1/ 4        20.6(15:20)
 1/ 5        20.6(15:05)
 1/ 6       112.3(22:25)
 1/ 7       157.3( 3:10)
 1/ 8        89.9( 4:15)
 1/ 9        18.7( 4:05)
 1/10
------------------------------------------------------------------------------------------
 1/11
 1/12          .0(16:15)
 1/13
 1/14          .0(15:40)
 1/15          .0( 0:00)
 1/16          .0( 0:00)
 1/17          .0( 0:00)
 1/18          .0( 0:05)
 1/19         5.6(15:40)
 1/20          .0( 0:05)
------------------------------------------------------------------------------------------
 1/21        11.2(10:25)
 1/22          .0( 0:00)
 1/23          .0( 0:00)
 1/24         5.6(19:35)
 1/25        31.8(11:30)
 1/26        15.0(10:40)
 1/27        16.9(15:10)
 1/28          .0(10:40)
 1/29         1.9(22:10)
 1/30         1.9( 0:15)
------------------------------------------------------------------------------------------
 1/31         1.9( 0:05)
```

```
       TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN    1 THRU 31
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
            TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
            PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                    NITRIC OXIDE(NO)

    STIE      023
DATE
-----------------------------------------------------------------------------------------
 1/ 1        5.5(12:55)
 1/ 2         .0( 0:00)
 1/ 3         .0( 0:00)
 1/ 4       20.6(15:20)
 1/ 5        7.5(17:20)
 1/ 6       59.9(17:35)
 1/ 7       18.7(13:05)
 1/ 8       24.3( 4:10)
 1/ 9       18.7( 4:05)
 1/10
-----------------------------------------------------------------------------------------
 1/11
 1/12         .0(16:15)
 1/13
 1/14         .0(15:40)
 1/15         .0( 0:00)
 1/16         .0( 0:00)
 1/17         .0( 0:00)
 1/18         .0( 0:05)
 1/19         .0(15:25)
 1/20         .0( 0:05)
-----------------------------------------------------------------------------------------
 1/21       11.2(10:25)
 1/22         .0( 0:00)
 1/23         .0( 0:00)
 1/24         .0(10:30)
 1/25        1.9(12:55)
 1/26       15.4(13:40)
 1/27       13.1(15:35)
 1/28         .0(10:40)
 1/29         .0( 0:45)
 1/30         .0( 0:05)
-----------------------------------------------------------------------------------------
 1/31         .0( 0:00)
```

RADIAN
CORPORATION

```
  TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 3
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
       TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
       PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                          NITROGEN DIOXIDE(NO2)

    SITE      023
DATE
----------------------------------------------------------------------------------------
 1/ 1       20.6(13:00)
 1/ 2        9.4( 0:55)
 1/ 3         .0( 0:00)
 1/ 4        9.4(15:00)
 1/ 5       20.6(15:05)
 1/ 6      112.3(22:25)
 1/ 7      157.3( 3:10)
 1/ 8       65.5( 4:15)
 1/ 9         .0( 0:00)
 1/10
----------------------------------------------------------------------------------------
 1/11
 1/12         .0(16:15)
 1/13
 1/14         .0(15:40)
 1/15         .0( 0:00)
 1/16         .0( 0:00)
 1/17         .0( 0:00)
 1/18         .0( 0:05)
 1/19        5.6(15:40)
 1/20         .0( 0:05)
----------------------------------------------------------------------------------------
 1/21         .0( 0:05)
 1/22         .0( 0:00)
 1/23         .0( 0:00)
 1/24        5.6(19:35)
 1/25       31.8(11:30)
 1/26        1.9(16:25)
 1/27        7.5(15:10)
 1/28         .0(10:40)
 1/29        1.9(22:10)
 1/30        1.9( 0:15)
----------------------------------------------------------------------------------------
 1/31        1.9( 0:05)
```

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          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
             TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
             PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                            SULFUR DIOXIDE(SO2)

    SITE      023
DATE
------------------------------------------------------------------------------------------
 1/ 1       2.6(22:40)
 1/ 2        .0( 0:00)
 1/ 3        .0( 0:00)
 1/ 4     145.9(15:40)
 1/ 5        .0( 0:00)
 1/ 6        .0( 0:00)
 1/ 7       2.6( 4:30)
 1/ 8        .0( 0:00)
 1/ 9       5.2(15:20)
 1/10      26.0(16:05)
------------------------------------------------------------------------------------------
 1/11       5.2( 4:50)
 1/12        .0( 0:00)
 1/13        .0( 0:00)
 1/14        .0( 0:00)
 1/15        .0( 0:00)
 1/16        .0( 0:00)
 1/17        .0( 0:00)
 1/18      23.4(15:35)
 1/19      15.6(20:10)
 1/20     101.5(16:05)
------------------------------------------------------------------------------------------
 1/21      28.7( 7:15)
 1/22      26.0( 9:45)
 1/23      28.7( 1:40)
 1/24      26.0( 4:10)
 1/25      31.3(18:45)
 1/26      31.3( 3:00)
 1/27      18.2(15:10)
 1/28      10.4( 0:35)
 1/29        .0( 0:00)
 1/30        .0( 0:05)
------------------------------------------------------------------------------------------
 1/31        .0( 0:00)
```

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      TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN    1 THRU 31
   (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
          TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
          PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                   PYRANOMETER

    SITE      023
DATE
-------------------------------------------------------------------------------------------
 1/ 1       3.60(12:25)
 1/ 2       3.55(11:25)
 1/ 3       1.70(14:35)
 1/ 4       4.20(13:05)
 1/ 5        .90(11:35)
 1/ 6       1.60(13:20)
 1/ 7       4.35(12:45)
 1/ 8       2.50(12:50)
 1/ 9       4.60(12:05)
 1/10       2.35( 9:50)
-------------------------------------------------------------------------------------------
 1/11       3.45(11:45)
 1/12       3.90(12:25)
 1/13       4.60(11:10)
 1/14       4.95(12:00)
 1/15       3.70(13:40)
 1/16       2.80(14:10)
 1/17       3.80(11:30)
 1/18       4.20(12:35)
 1/19       3.55(12:40)
 1/20       3.90(12:55)
-------------------------------------------------------------------------------------------
 1/21       3.80(13:05)
 1/22       1.15(12:40)
 1/23       2.00(12:35)
 1/24       4.90(14:10)
 1/25       5.60(11:05)
 1/26       3.85(11:55)
 1/27       3.85(12:00)
 1/28       3.95(11:35)
 1/29       3.90(11:55)
 1/30       3.90(11:55)
-------------------------------------------------------------------------------------------
 1/31       3.95(12:15)
```

```
   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              HYDROGEN SULFIDE

    SITE      423
DATE
--------------------------------------------------------------------------------
 1/ 1        5.5(20:15)
 1/ 2        6.9( 2:25)
 1/ 3        5.5( 0:00)
 1/ 4       30.4(15:40)
 1/ 5         .0( 0:00)
 1/ 6        1.4(12:00)
 1/ 7        2.8(18:30)
 1/ 8
 1/ 9         .0(11:25)
 1/10       11.1(16:05)
--------------------------------------------------------------------------------
 1/11         .0( 0:00)
 1/12         .0( 0:00)
 1/13        4.2(14:45)
 1/14        2.8(23:05)
 1/15        2.8( 0:00)
 1/16        1.4( 3:25)
 1/17       23.5(12:50)
 1/18         .0( 0:05)
 1/19        1.4(22:30)
 1/20        8.3(16:05)
--------------------------------------------------------------------------------
 1/21        2.8( 2:10)
 1/22         .0( 0:30)
 1/23         .0( 0:00)
 1/24        1.4(10:00)
 1/25        4.2(23:15)
 1/26        1.4(10:05)
 1/27        1.4(10:15)
 1/28         .0( 0:20)
 1/29         .0( 0:40)
 1/30         .0( 0:05)
--------------------------------------------------------------------------------
 1/31         .0( 0:05)
```

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  -     TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
      (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
            TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
            PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                TOTAL HYDROCARBONS

    SITE     023
DATE
------------------------------------------------------------------------------------------------
 1/ 1      1114.9( 8:55)
 1/ 2      1107.1( 0:40)
 1/ 3      1094.1(21:25)
 1/ 4      1081.9(20:55)
 1/ 5      1243.8(23:50)
 1/ 6      3147.4(13:50)
 1/ 7      1639.8( 9:05)
 1/ 8
 1/ 9
 1/10
------------------------------------------------------------------------------------------------
 1/11      1113.0(18:10)
 1/12      1350.0(16:35)
 1/13      1152.7( 8:40)
 1/14      1146.8(18:00)
 1/15      1288.1(15:30)
 1/16      1636.5( 3:40)
 1/17      3249.6(14:45)
 1/18
 1/19      1044.6(20:25)
 1/20      1054.1( 1:45)
------------------------------------------------------------------------------------------------
 1/21      1004.8(17:15)
 1/22      1070.4(15:40)
 1/23      1113.5(14:10)
 1/24      1121.4(13:45)
 1/25      1208.7( 5:55)
 1/26      1266.0(16:20)
 1/27      1167.7(14:25)
 1/28      1101.9(15:20)
 1/29      1197.6(12:40)
 1/30      1269.2( 1:40)
------------------------------------------------------------------------------------------------
 1/31      1272.5(20:50)
```

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      TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
   (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
           TEMPERATURE-DEGREES FAHRENHETT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
           PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                   METHANE

     SITE      023
DATE
--------------------------------------------------------------------------------------------
 1/ 1      927.4( 0:55)
 1/ 2      933.2(12:15)
 1/ 3      938.4(14:25)
 1/ 4      950.8(16:00)
 1/ 5     1092.8(21:15)
 1/ 6     1081.0( 8:45)
 1/ 7     1084.3(10:05)
 1/ 8     1028.9(12:20)
 1/ 9     1464.6( 8:35)
 1/10      935.2( 1:35)
--------------------------------------------------------------------------------------------
 1/11      938.4(11:10)
 1/12      927.4(15:25)
 1/13     1021.1(11:30)
 1/14      982.7(19:35)
 1/15      925.4(12:50)
 1/16      928.7( 4:10)
 1/17     2729.3(16:05)
 1/18
 1/19      943.0(15:40)
 1/20      926.7(12:05)
--------------------------------------------------------------------------------------------
 1/21      900.0( 6:20)
 1/22      918.9( 2:25)
 1/23      925.4(14:15)
 1/24      947.5( 9:45)
 1/25      845.9( 5:15)
 1/26      812.7( 1:20)
 1/27      814.7(15:10)
 1/28      818.6(10:50)
 1/29      780.8(12:50)
 1/30      753.5( 2:45)
--------------------------------------------------------------------------------------------
 1/31      681.8( 1:20)
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          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN    1 THRU 31
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                      NON-METHANE HYDROCARBONS

    SITE      023
DATE
------------------------------------------------------------------------------------------------
 1/ 1       190.8( 8:55)
 1/ 2       184.3( 0:40)
 1/ 3       184.3(21:25)
 1/ 4       151.1(15:35)
 1/ 5       285.2(23:50)
 1/ 6      2218.7(13:50)
 1/ 7       747.9( 9:05)
 1/ 8
 1/ 9
 1/10
------------------------------------------------------------------------------------------------
 1/11       220.8(18:10)
 1/12       432.4(16:35)
 1/13       231.8( 8:40)
 1/14       316.5(18:20)
 1/15       377.1(15:00)
 1/16       749.6( 3:40)
 1/17      2462.3(14:50)
 1/18
 1/19       134.8(20:25)
 1/20       156.3( 1:45)
------------------------------------------------------------------------------------------------
 1/21       130.2(23:05)
 1/22       165.4(23:45)
 1/23       195.4(14:10)
 1/24       286.5(13:45)
 1/25       373.8( 6:55)
 1/26       470.8(16:20)
 1/27       402.5(14:25)
 1/28       350.4(20:55)
 1/29       426.6(12:40)
 1/30       526.8( 1:40)
------------------------------------------------------------------------------------------------
 1/31       671.4(20:50)
```

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   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              CARBON MONOXIDE

    SITE      023
DATE
------------------------------------------------------------------------------------
 1/ 1
 1/ 2
 1/ 3
 1/ 4
 1/ 5
 1/ 6
 1/ 7
 1/ 8
 1/ 9
 1/10
------------------------------------------------------------------------------------
 1/11
 1/12
 1/13       2956.3(16:40)
 1/14       1964.8(21:10)
 1/15       4419.6(16:45)
 1/16        355.6(17:30)
 1/17       4853.8(16:05)
 1/18
 1/19        405.7(23:55)
 1/20       2711.2(16:55)
------------------------------------------------------------------------------------
 1/21        461.6(16:50)
 1/22        963.4(10:25)
 1/23       1023.4(11:35)
 1/24       4486.8( 9:45)
 1/25        488.9(14:15)
 1/26       1007.5(12:10)
 1/27        752.2( 9:55)
 1/28        311.1(21:35)
 1/29        299.7(10:40)
 1/30        589.2(10:10)
------------------------------------------------------------------------------------
 1/31        556.2( 8:30)
```

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   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        OZONE

    SITE     023
DATE
------------------------------------------------------------------------------------------
 1/ 1       82.1(16:00)
 1/ 2       74.2(12:10)
 1/ 3       78.1(18:55)
 1/ 4       74.2(11:50)
 1/ 5       66.4(13:45)
 1/ 6       80.1(23:10)
 1/ 7       80.1(12:10)
 1/ 8       74.2( 7:35)
 1/ 9       76.2(13:15)
 1/10       84.0(18:35)
------------------------------------------------------------------------------------------
 1/11       86.0(12:30)
 1/12       89.9(22:15)
 1/13       89.9( 0:05)
 1/14       84.0(15:55)
 1/15       86.0( 0:20)
 1/16       82.1( 0:30)
 1/17       80.1( 6:30)
 1/18       76.2(15:55)
 1/19       78.1(14:00)
 1/20       78.1(12:25)
------------------------------------------------------------------------------------------
 1/21       82.1(15:10)
 1/22       78.1( 1:40)
 1/23       68.4(13:25)
 1/24       76.2(11:50)
 1/25       82.1(12:50)
 1/26       78.1(11:05)
 1/27       76.2(10:20)
 1/28       72.3( 2:10)
 1/29       78.1(13:45)
 1/30       82.1(14:25)
------------------------------------------------------------------------------------------
 1/31       80.1(11:45)
```

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   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                         BAROMETRIC PRESSURE

    SITE      023
DATE
--------------------------------------------------------------------------------
 1/ 1       783.0(22:20)
 1/ 2       784.0( 8:30)
 1/ 3       782.0( 0:00)
 1/ 4       785.0(23:10)
 1/ 5       786.0(22:40)
 1/ 6       792.0(15:20)
 1/ 7       791.0( 0:00)
 1/ 8       782.0( 0:00)
 1/ 9       788.0(11:00)
 1/10       788.0( 0:30)
--------------------------------------------------------------------------------
 1/11       791.0( 8:40)
 1/12       790.0( 0:00)
 1/13       787.0( 9:05)
 1/14       789.0( 7:15)
 1/15       792.0(21:05)
 1/16       797.0(22:55)
 1/17       798.0( 9:40)
 1/18       800.0( 9:05)
 1/19       796.0( 9:10)
 1/20       794.0(11:10)
--------------------------------------------------------------------------------
 1/21       793.0( 0:05)
 1/22       790.0( 0:00)
 1/23       793.0(22:45)
 1/24       794.0(10:45)
 1/25       791.0( 0:00)
 1/26       789.0( 0:00)
 1/27       787.0( 9:00)
 1/28       789.0( 8:50)
 1/29       790.0(23:25)
 1/30       793.0(22:55)
--------------------------------------------------------------------------------
 1/31       793.0( 0:00)
```

```
   TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPTIATION-INCHES)

                              TOTAL PRECIPITATION

     SITE       023
DATE
---------------------------------------------------------------------------------------
 1/ 1
 1/ 2
 1/ 3           .02(20:00)
 1/ 4
 1/ 5
 1/ 6
 1/ 7
 1/ 8
 1/ 9
 1/10
---------------------------------------------------------------------------------------
 1/11
 1/12
 1/13
 1/14
 1/15
 1/16
 1/17
 1/18
 1/19
 1/20
---------------------------------------------------------------------------------------
 1/21
 1/22
 1/23
 1/24
 1/25
 1/26
 1/27
 1/28
 1/29
 1/30
---------------------------------------------------------------------------------------
 1/31
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          TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
              TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                          WIND SPEED          -        WIND DIRECTION

  SITE 023
DATE      (  8-FT)                  ( 30-FT)                    (100-FT)                    (200-FT)
------------------------------------------------------------------------------------------------------------
1/ 1       16.0   188.0(10:30)       21.0   208.0(14:55)      25.0   212.0(16:15)      27.0   216.0(16:15)
1/ 2       19.0   185.0(22:00)       24.0   186.0(22:00)      27.0   188.0(22:00)      29.0   201.0(21:15)
1/ 3       24.0   179.0(11:25)       26.0   178.0(11:10)      30.0   179.0(11:10)      33.0   183.0(11:10)
1/ 4       13.0   209.0( 0:05)       17.0   212.0( 0:05)      21.0   216.0( 0:05)      25.0   221.0( 0:05)
1/ 5        5.0   346.0(15:25)        7.0   306.0(15:25)       8.0   307.0(15:30)       9.0   311.0(15:30)
1/ 6        8.0   205.0(14:50)       10.0   200.0(15:55)      11.0   202.0(15:55)      12.0   205.0(16:00)
1/ 7       16.0   197.0(14:50)       19.0   217.0(13:05)      23.0   199.0(14:50)      25.0   206.0(14:50)
1/ 8        9.0   318.0(17:35)       12.0   317.0(17:35)      14.0   326.0(17:35)      16.0   323.0(17:35)
1/ 9       12.0   191.0(17:00)       16.0   188.0(18:40)      19.0   190.0(17:50)      24.0   197.0(18:35)
1/10       17.0   190.0( 9:55)       22.0   190.0( 9:55)      25.0   193.0( 9:50)      27.0   199.0( 9:50)
------------------------------------------------------------------------------------------------------------
1/11        6.0   222.0(13:25)        9.0   159.0(17:20)      11.0   189.0(17:05)      14.0   206.0( 3:45)
1/12       16.0   226.0(13:30)       21.0   211.0(13:30)      25.0   213.0(13:30)      27.0   217.0(13:30)
1/13       10.0     2.0(14:50)       13.0   349.0(14:50)      15.0   279.0(14:50)      15.0   343.0(14:50)
1/14        7.0   250.0(13:05)        8.0   246.0(13:05)       9.0   252.0(13:05)      14.0   208.0(22:05)
1/15       13.0   178.0(10:15)       16.0   173.0( 6:05)      21.0   172.0( 6:05)      22.0   187.0( 5:20)
1/16        6.0   188.0( 2:25)       11.0   179.0( 2:30)      14.0   186.0( 2:15)      17.0   191.0( 2:25)
1/17        5.0   118.0(11:10)        6.0   193.0( 8:35)      10.0   194.0( 2:55)      14.0   208.0( 2:50)
1/18        9.0   213.0(12:35)       12.0   225.0(12:40)      17.0   206.0(22:35)      23.0   214.0(22:40)
1/19        7.0   202.0( 2:30)       10.0   202.0( 2:30)      16.0   202.0( 2:30)      18.0   205.0( 2:20)
1/20        6.0   214.0(15:05)       10.0   201.0(15:25)      12.0   202.0(17:25)      15.0   204.0(17:25)
------------------------------------------------------------------------------------------------------------
1/21        9.0   215.0(13:35)       11.0   213.0(13:35)      13.0   214.0(15:15)      15.0   218.0(15:20)
1/22        5.0   230.0( 0:25)        7.0   233.0( 0:25)      10.0   219.0( 0:45)      12.0   231.0( 0:55)
1/23        6.0     2.0(13:55)        9.0   329.0(15:05)      10.0   218.0(15:05)      10.0    11.0(14:05)
1/24        7.0   350.0(13:05)        8.0   209.0(18:35)      12.0   201.0(19:20)      15.0   205.0(19:50)
1/25       11.0   221.0(13:15)       13.0   220.0(13:15)      15.0   210.0(14:20)      18.0   208.0(18:00)
1/26       13.0   212.0(12:25)       17.0   203.0(14:10)      19.0   212.0(13:55)      22.0   207.0(17:20)
1/27       10.0   193.0(14:35)       14.0   221.0(16:45)      17.0   224.0(16:45)      19.0   228.0(16:45)
1/28       10.0   209.0(13:05)       13.0   295.0(13:05)      15.0   299.0(13:05)      16.0   209.0(17:50)
1/29        9.0   334.0(14:20)       12.0   338.0(14:20)      14.0     2.0(15:35)      15.0   355.0(16:10)
1/30        6.0   215.0(13:00)        8.0   215.0(19:45)      10.0   209.0(19:45)      11.0   214.0(20:45)
------------------------------------------------------------------------------------------------------------
1/31        9.0   220.0(13:00)       11.0   220.0(13:00)      14.0   173.0(23:00)      15.0   180.0(22:55)
```

```
          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
       (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
              TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                         RELATIVE HUMIDITY

   SITE 023
DATE      (  8-FT)                    ( 30-FT)                  (100-FT)                  (200-FT)
------------------------------------------------------------------------------------------------------
1/ 1        79.0( 6:25)                                          83.0( 6:05)
1/ 2        81.0( 0:25)                                          83.0( 0:00)
1/ 3        94.0(23:05)                                          99.0(23:00)
1/ 4        96.0(18:30)                                         100.0(17:45)               93.0(19:15)
1/ 5        98.0(18:40)                                         100.0( 0:00)               94.0( 2:35)
1/ 6        97.0( 0:10)                                         100.0( 0:00)               92.0( 0:00)
1/ 7        91.0( 6:10)                                          93.0( 6:10)               81.0( 6:20)
1/ 8        94.0(21:25)                                         100.0(17:40)               89.0(16:20)
1/ 9        94.0( 1:35)                                         100.0( 0:00)               95.0( 0:05)
1/10        72.0( 0:40)                                          74.0( 0:50)               66.0( 0:10)
------------------------------------------------------------------------------------------------------
1/11        70.0( 7:40)                                          66.0( 5:45)               58.0( 5:45)
1/12        58.0( 2:15)                                          57.0( 5:10)               53.0(23:55)
1/13        84.0(23:35)                                          83.0(23:55)               80.0(21:20)
1/14        91.0( 7:00)                                          90.0( 7:10)               85.0( 7:10)
1/15        80.0( 2:25)                                          81.0( 4:20)               76.0( 4:15)
1/16        97.0(17:15)                                         100.0(16:00)               99.0(16:10)
1/17        91.0( 0:10)                                          86.0( 0:00)               82.0( 0:00)
1/18        90.0( 6:10)                                          84.0( 6:50)               80.0( 7:00)
1/19        81.0( 7:00)                                          78.0( 6:25)               73.0( 7:45)
1/20        81.0( 2:30)                                          74.0( 1:40)               70.0( 0:55)
------------------------------------------------------------------------------------------------------
1/21        72.0( 2:40)                                          68.0( 1:50)               63.0( 1:50)
1/22       100.0(18:30)                                         100.0( 4:45)              100.0(21:00)
1/23       100.0( 0:00)                                         100.0( 0:00)              100.0( 0:00)
1/24       100.0( 0:00)                                         100.0( 0:00)              100.0( 0:00)
1/25        97.0( 5:30)                                          96.0( 5:15)               94.0( 5:05)
1/26        92.0( 7:15)                                          94.0( 7:10)               93.0( 7:10)
1/27        91.0( 6:45)                                          96.0( 8:20)               93.0( 7:35)
1/28        83.0( 7:15)                                          83.0( 0:00)               79.0( 0:00)
1/29        71.0( 6:25)                                          74.0( 6:30)               68.0( 6:20)
1/30        71.0( 6:05)                                          72.0( 9:00)               65.0( 6:20)
------------------------------------------------------------------------------------------------------
1/31        61.0( 0:20)                                          62.0( 0:55)               58.0( 0:50)
```

```
          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR JAN   1 THRU 31
      (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
               TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
               PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        TEMPERATURE

   SITE 023
DATE      (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
----------------------------------------------------------------------------------------------
1/ 1      34.0(12:15)           29.0(11:55)           28.0(12:25)           28.0(14:55)
1/ 2      34.0(14:00)           29.0(13:40)           27.0(13:30)           26.0(13:50)
1/ 3      34.0(14:25)           32.0(14:30)           31.0(14:40)           31.0(18:20)
1/ 4      29.0(13:55)           25.0(13:05)           23.0(12:20)           22.0(12:35)
1/ 5      18.0(15:45)           13.0( 0:10)           13.0( 1:10)           11.0( 1:05)
1/ 6      25.0(14:50)           21.0(13:50)           20.0(13:40)           18.0(14:00)
1/ 7      24.0(12:35)           20.0(12:35)           19.0(12:35)           20.0(13:15)
1/ 8      17.0(11:30)           12.0(12:40)           12.0( 5:25)           10.0( 3:30)
1/ 9      17.0(15:20)           13.0(15:00)           13.0(15:20)           10.0(15:20)
1/10      24.0(13:45)           21.0(13:45)           20.0(13:40)           19.0(15:10)
----------------------------------------------------------------------------------------------
1/11      33.0(13:50)           30.0(14:20)           29.0(14:00)           28.0(14:25)
1/12      38.0(13:20)           34.0(13:10)           33.0(13:20)           33.0(13:20)
1/13      32.0(12:45)           29.0(11:50)           28.0(13:15)           26.0(12:50)
1/14      30.0(13:35)           27.0(12:50)           26.0(15:45)           24.0(15:40)
1/15      36.0(14:00)           33.0(14:05)           31.0(14:20)           30.0(14:05)
1/16      31.0(11:45)           29.0(12:10)           27.0(11:25)           26.0(11:50)
1/17      40.0(15:40)           38.0(15:30)           36.0(15:00)           35.0(15:25)
1/18      47.0(13:40)           44.0(12:15)           44.0(15:50)           41.0(13:25)
1/19      44.0(14:25)           41.0(14:30)           39.0(14:25)           38.0(14:45)
1/20      46.0(13:40)           45.0(14:40)           43.0(14:35)           42.0(14:40)
----------------------------------------------------------------------------------------------
1/21      47.0(13:30)           44.0(12:45)           43.0(12:45)           41.0(12:50)
1/22      36.0(13:30)           34.0( 0:00)           37.0( 0:00)           35.0( 0:00)
1/23      33.0(13:15)           30.0(13:05)           28.0( 0:00)           26.0( 0:00)
1/24      33.0(13:35)           30.0(13:45)           30.0(15:20)           27.0(14:50)
1/25      36.0(14:40)           32.0(13:10)           32.0(15:05)           29.0(14:25)
1/26      34.0(13:45)           31.0(13:30)           31.0(16:00)           30.0(14:05)
1/27      39.0(14:25)           35.0(14:25)           33.0(13:55)           31.0(13:45)
1/28      44.0(15:30)           40.0(15:10)           39.0(15:05)           37.0(15:10)
1/29      33.0(14:55)           36.0(13:25)           35.0(13:25)           33.0(14:20)
1/30      37.0(14:45)           34.0(14:40)           34.0(15:35)           32.0(15:25)
----------------------------------------------------------------------------------------------
1/31      45.0(14:40)           42.0(12:25)           40.0(12:20)           39.0(12:45)
```

TABLE VI
THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR JANUARY 1 THRU 31

```
          TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
                            (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                    UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                                WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                            NITROGEN OXIDES[WS: WD]
                                                 1-HOUR
SITE                   023

 1. 1/ 7( 2:55- 3:55)  24.7[ 4:130]
 2. 1/ 7(11:10-12:10)  14.7[12:202]
 3. 1/ 6(22:20-23:20)  14.5[ 2:112]
 4. 1/ 6( 9:25-10:25)  12.2[ 1: 54]
 5. 1/25(11:40-12:40)  11.9[ 2:290]
------------------------------------------------------------------------------------------------------

                                             NITRIC OXIDE[WS: WD]
                                                 1-HOUR
SITE                   023

 1. 1/ 8(21:35-22:35)  10.9[ 6:291]
 2. 1/ 7(22:20-23:20)   7.3[ 3:129]
 3. 1/ 7(11:05-12:05)   6.6[11:202]
 4. 1/ 9( 3:30- 4:30)   5.5[ 2:234]
 5. 1/ 6(17:30-18:30)   5.0[ 3: 90]
------------------------------------------------------------------------------------------------------

                                            NITROGEN DIOXIDE[WS: WD]
                                                 1-HOUR
SITE                   023

 1. 1/ 7( 2:55- 3:55)  24.7[ 4:130]
 2. 1/ 6(22:20-23:20)  14.5[ 2:112]
 3. 1/ 6( 9:25-10:25)  12.2[ 1: 54]
 4. 1/25(11:40-12:40)  11.9[ 2:290]
 5. 1/ 6(10:30-11:30)   8.9[ 1: 10]
------------------------------------------------------------------------------------------------------
```

```
                TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC   1-31
                              (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                        UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                              WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                             SULFUR DIOXIDE[WS: WD]
                                                 1-HOUR
SITE                 023

 1. 1/20(15:05-16:05)  21,1[ 7:197]
 2. 1/21( 4:30- 5:30)  19,5[ 1: 82]
 3. 1/21( 6:30- 7:30)  18,5[ 2:146]
 4. 1/25(13:35-14:35)  17,8[11:214]
 5. 1/21( 3:10- 4:10)  16,9[ 3:128]
----------------------------------------------------------------------------------------------------

                                             SULFUR DIOXIDE[WS: WD]
                                                 3-HOUR
SITE                 023

 1. 1/21( 4:30- 7:30)  17,6[ 2:131]
 2. 1/25(13:25-16:25)  15,1[10:215]
 3. 1/25(17:30-20:30)  15,1[ 5:153]
 4. 1/26( 1:50- 4:50)  14,5[ 4:124]
 5. 1/25(21:50- 0:50)  14,3[ 3:130]
----------------------------------------------------------------------------------------------------

                                             SULFUR DIOXIDE[WS: WD]
                                                24-HOUR
SITE                 023

 1. 1/25- 1/26( 5:00)  11,5[ 5:148]
 2. 1/23- 1/24( 6:00)   9,9[ 2:317]
 3. 1/21- 1/22( 3:00)   7,2[ 4:177]
 4. 1/26- 1/27(10:00)   2,1[ 6:158]
 5. 1/ 9- 1/10(17:00)   1,2[ 9:168]
----------------------------------------------------------------------------------------------------
```

```
        TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
                    (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                 UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                      WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                HYDROGEN SULFIDE(WS: WD)
                                      1-HOUR
SITE               023

 1. 1/ 2( 1:55- 2:55)   5.5[13:201]
 2. 1/ 1(23:10- 0:10)   5.4[12:138]
 3. 1/ 2( 8:30- 9:30)   5.3[15:201]
 4. 1/ 3( 8:25- 9:25)   5.1[12:154]
 5. 1/ 2( 3:10- 4:10)   4.8[13:194]
------------------------------------------------------------------------------------------

                               TOTAL HYDROCARBONS(WS: WD)
                                   3-HOUR(5-9AM)
SITE               023

 1. 1/ 7( 6:00- 9:00)1554.6[ 5:139]
 2. 1/ 6( 6:00- 9:00)1434.5[ 2:199]
 3. 1/30( 6:00- 9:00)1092.9[ 1:165]
 4. 1/31( 6:00- 9:00)1089.3[ 3:121]
 5. 1/13( 6:00- 9:00)1080.9[ 1:114]
   PRIMARY STANDARD EXCEEDED  24 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  24 TIMES AT SITE 023
------------------------------------------------------------------------------------------
```

```
                         TABLE VI, THE FIVE MAXIMUM AVERAGES FOR DEC   1-31
                                   (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                        UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                              WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                          METHANE(WS: WD)
                                            3-HOUR(6-9AM)
SITE               023

 1. 1/ 9( 6:00- 9:00) 959.8[ 0:176]
 2. 1/ 6( 6:00- 9:00) 945.7[ 2:199]
 3. 1/ 7( 6:00- 9:00) 933.3[ 5:139]
 4. 1/ 5( 6:00- 9:00) 922.4[ 1:178]
 5. 1/10( 6:00- 9:00) 920.0[ 9:185]
   PRIMARY STANDARD EXCEEDED  28 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  25 TIMES AT SITE 023
------------------------------------------------------------------------------------------------
```

```
                         TABLE VI, THE FIVE MAXIMUM AVERAGES FOR DEC   1-31
                               (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                        UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                               WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                     NON-METHANE HYDROCARBONS[WS: WD]
                                           3-HOUR(6-9AM)
SITE            023

 1. 1/ 7( 6:00- 9:00) 621,3[ 5:139]
 2. 1/ 6( 6:00- 9:00) 488,8[ 2:199]
 3. 1/31( 6:00- 9:00) 440,2[ 3:121]
 4. 1/30( 6:00- 9:00) 381.4[ 1:165]
 5. 1/29( 5:00- 9:06) 321,4[ 4:142]
   PRIMARY STANDARD EXCEEDED  20 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  20 TIMES AT SITE 023
--------------------------------------------------------------------------------------------------------
```

```
                TABLE VI, THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC   1-31
                          (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                       UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                              WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                        CARBON MONOXIDE(WS: WD)
                                           1-HOUR
SITE                 023

 1. 1/13(15:40-16:40) 716.4( 2:124)
 2. 1/15(15:50-16:50) 708.3( 5:145)
 3. 1/27( 9:20-10:20) 700.6( 5:201)
 4. 1/17(15:05-16:05) 590.0( 3:136)
 5. 1/27(12:35-13:35) 585.6( 6:233)
----------------------------------------------------------------------------------------------------
```

```
TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC   1-31
              (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
          UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                           CARBON MONOXIDE[WS: WD]
                                8-HOUR

SITE              023

 1. 1/27( 6:55-14:55) 584.7[ 5:192]
 2. 1/30( 9:55-17:55) 551.1[ 3: 31]
 3. 1/30(18:55- 2:55) 521.3[ 2:120]
 4. 1/31( 3:55-11:55) 465.7[ 3:177]
 5. 1/24( 2:55-10:55) 392.6[ 2:329]
--------------------------------------------------------------------------------------------
```

```
TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR DEC    1-31
               (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
        UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                 WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                  OZONE[WS: WD]
                                     1-HOUR

SITE               023

 1. 1/12(21:55-22:55)  88.7[ 3:139]
 2. 1/12(23:20- 0:20)  88.7[ 2:145]
 3. 1/13( 0:55- 1:55)  88.1[ 3:171]
 4. 1/12(19:50-20:50)  87.6[ 2: 87]
 5. 1/15(11:10-12:10)  84.7[15:192]
-----------------------------------------------------------------------------------------
```

```
                              TABLE VT. THE FIVE MAXIMUM AVERAGES FOR DEC   1-31
                             UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER

                                            PARTICULATE
                                              24-HOUR
SITE              023

         1    1/22    22.0
         2    1/29     9.0
         3    1/ 3     8.0
         4    1/24     7.0
         5    1/25     7.0
--------------------------------------------------------------------------------------------------------------
```

TABLE VII
FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION

RADIAN
CORPORATION

```
                        NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

        NITROGEN OXIDES(NOX)                                                 C-B SHALE OIL PROJECT
                                      TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                             WIND DIRECTION
                  N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM   TOTAL
CONCENTRATION
  UG/M**3
  GT   160 :                                                                                       :
140 -  160 :                           1                                                           :     1
120 -  140 :                           0                                                           :     0
110 -  120 :                           1    1                                                      :     2
100 -  110 :                           0    0                                                      :     0
 90 -  100 :                           0    0                                                      :     0
 80 -   90 :                  1        0    0                                                      :     1
 70 -   80 :                  0        0    1                                                      :     1
 60 -   70 :                  0        0    1              1                                       :     2
 50 -   60 :                  0        1    0    1    1    0                                       :     3
 40 -   50 :                  1        0    0    0    0    0                                       :     1
 30 -   40 :                  0        1    0    1    0    0    1                                  :     3
 20 -   30 :             1    2    2    2    0    0    1    5    0         2                        :    15
 10 -   20 :    5    3    2    2    2    8   15   14    0   16    8    5    2   17    6    1    4  :   110
   LT   10 :  108  100  109  187  259  404  455  525  752 1150  414  171  223  216  103   90  223  :  5499
   TOTAL   :  113  103  112  193  273  418  473  541  754 1172  423  176  227  233  109   91  227  :  5638
           ..........................................................................................
   MEAN        0.   1.   0.   1.   0.   2.   1.   0.   0.   0.   0.   0.   0.   1.   0.   0.   0.     0.
```

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

             NITRIC OXIDE(NO)                                                       C-B SHALF OIL PROJECT
                                          TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                                  WIND DIRECTION
                     N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW CALM   TOTAL
 CONCENTRATION
   UG/M**3
   GT    160 :                                                                                                   :
 
 140 -   160 :                                                                                                   :

 120 -   140 :                                                                                                   :

 110 -   120 :                                                                                                   :

 100 -   110 :                                                                                                   :

  90 -   100 :                                                                                                   :

  80 -    90 :                                                                                                   :

  70 -    80 :                                                                                                   :

  60 -    70 :                                                                                                   :

  50 -    60 :                                                   1                                               :      1

  40 -    50 :                                                   0                                               :      0

  30 -    40 :                                                   0                                               :      0

  20 -    30 :                 1     2                           0     1                                         :      4

  10 -    20 :     2           0     0     1     7    14    13     0    12     6     4     2    14     5     1     2 :     83

   LT     10 :   112   104   112   192   272   411   460   528   753  1160   419   175   229   223   104    91   225 :   5570

    TOTAL    :   114   104   113   194   273   418   474   541   754  1173   425   179   231   237   109    92   227 :   5658
             ..........................................................................................................

    MEAN          0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.    1.    0.    0.    0.      0.
```

RADIAN
CORPORATION

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

          NITROGEN DIOXIDE(NO2)                                            C-B SHALE OIL PROJECT
                                   TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                               WIND DIRECTION
                   N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW CALM   TOTAL
CONCENTRATION
  UG/M**3
   GT    160 :                                                                                                 :
 140 -   160 :                             1                                                                   :      1
 120 -   140 :                             0                                                                   :      0
 110 -   120 :                             1     1                                                             :      2
 100 -   110 :                             0     0                                                             :      0
  90 -   100 :                             0     0                                                             :      0
  80 -    90 :                             0     0                                                             :      0
  70 -    80 :                             0     0                                                             :      0
  60 -    70 :                 1           0     1                                                             :      2
  50 -    60 :                 0           1     1     1                                                       :      3
  40 -    50 :                 0           0     0     0           1                                           :      1
  30 -    40 :                 0           1     0     1           0     1                                     :      3
  20 -    30 :                 3     2     2     0     0           3     0           2                         :     12
  10 -    20 :     3     3     2     2     1     1     2     1     1     4     2     1     0     3     1        2 :     29
   LT     10 :   110   100   110   187   270   411   468   538   753  1164   420   175   225   230   108    91  225 :   5585
    TOTAL    :   113   103   112   193   273   418   473   541   754  1172   423   176   227   233   109    91  227 :   5638
             ...........................................................................................................
      MEAN        0.    1.    0.    1.    0.    1.    0.    0.    0.    0.    0.    0.    0.    0.    0.    0.   0.      0.
```

RADIAN
CORPORATION

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

          SULFUR DIOXIDE(SO2)                                              C-B SHALE OIL PROJECT
                              TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                        WIND DIRECTION
                    N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM   TOTAL
CONCENTRATION
  UG/M**3
   GT   140 :                                                    1                                   :     1

130 -   140 :                                                    0                                   :     0

120 -   130 :                                                    0                                   :     0

110 -   120 :                                                    0                                   :     0

100 -   110 :                                                    1                                   :     1

 90 -   100 :                                                    0                                   :     0

 80 -    90 :                                                    0                                   :     0

 70 -    80 :                                                    0                                   :     0

 60 -    70 :                                                    0                                   :     0

 50 -    60 :                                                    0                                   :     0

 40 -    50 :                                                    0                                   :     0

 30 -    40 :                               2                    1                                   :     3

 20 -    30 :       1         1    6   12   11   18    4    3   19    3         5    5    1   15    4 :   108

 10 -    20 :       6    6    1   22   43   52   60   31   35  128   34    8   29   43   10   95   15 :   618

   LT    10 :     171  169  200  298  404  608  631  742 1097 1467  575  224  290  343  150  220  354 :  7943

   TOTAL    :     178  175  202  326  459  671  711  777 1135 1617  612  232  324  391  161  330  373 :  8674
            ...............................................................................................

     MEAN          0.   0.   0.   2.   2.   2.   2.   0.   0.   2.   1.   0.   2.   2.   2.   6.   1.     2.
```

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

           HYDROGEN SULFIDE(H2S)                                               C-B SHALE OIL PROJECT
                                    TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                                 WIND DIRECTION
                      N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
 CONCENTRATION
   UG/M**3
   GT    140 :                                                                                      :
 130 -   140 :                                                                                      :
 120 -   130 :                                                                                      :
 110 -   120 :                                                                                      :
 100 -   110 :                                                                                      :
  90 -   100 :                                                                                      :
  80 -    90 :                                                                                      :
  70 -    80 :                                                                                      :
  60 -    70 :                                                                                      :
  50 -    60 :                                                                                      :
  40 -    50 :                                                                                      :
  30 -    40 :                                                     1                                :     1
  20 -    30 :              1                                      0                                :     1
  10 -    20 :              0                                      1                                :     1
    LT    10 :  177  173  196  321  448  630  658  720 1131 1610  599  209  274  286  119  324  340 :  8217
    TOTAL    :  177  173  199  321  448  630  658  720 1131 1612  599  209  274  286  119  324  340 :  8220
             ...........................................................................................
     MEAN       0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.    0.
```

```
                    NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

        TOTAL HYDROCARBONS                                            C-B SHALE OIL PROJECT
                             TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                           WIND DIRECTION
                 N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
 CONCENTRATION
   UG/M**3
   GT   4000 :                                                                                   :
 3600 - 4000 :                                                                                   :
 3400 - 3600 :                                                                                   :
 3200 - 3400 :                        1         1                                                :      2
 3000 - 3200 :                        0         0                   1                            :      1
 2800 - 3000 :                        0         0                   0                            :      0
 2600 - 2800 :                   2    0    1    0    1              0                            :      4
 2400 - 2600 :                   0    0    0    0    0              0                            :      0
 2200 - 2400 :                   0    0    0    0    0              0                            :      0
 2000 - 2200 :                   0    0    0    0    0              0                            :      0
 1800 - 2000 :                   0    0    0    0    0              0                            :      0
 1600 - 1800 :                   0    1    1    7    7    2    2    0                          1 :     21
    LT  1600 :  148  139  151  245  360  526  545  645  925 1446  549  196  261  272  107  308  319 :   7142
     TOTAL   :  148  139  151  247  362  528  553  653  927 1448  550  196  261  272  107  308  320 :   7170
             ...........................................................................................
 MEAN/100       11.  11.  11.  11.  11.  10.  11.  11.  11.  11.  11.  11.  11.  11.  11.  10.  11.  11.
```

RADIAN
CORPORATION

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

METHANE(CH4)
C-B SHALE OIL PROJECT
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
									WIND DIRECTION									
GT 2400					1													1
2200 - 2400					0													0
2000 - 2200					0													0
1800 - 2000					0													0
1600 - 1800					0													0
1400 - 1600					0			1										1
1200 - 1400					0			1										1
1000 - 1200					0			2		2			2		1			7
800 - 1000	97	110	121	184	298	468	491	592	984	1247	477	179	286	359	134	274	286	6587
600 - 800	72	55	58	100	118	162	153	147	123	290	105	44	24	22	21	43	75	1612
400 - 600	0	0	0	0	2	1	1	3	0	0	0	0	0	0	0	0	0	7
200 - 400	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
LT 200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	169	165	179	284	420	632	645	747	1107	1539	582	223	312	381	156	317	361	8219
MEAN	832.	839.	849.	844.	857.	856.	859.	873.	889.	875.	874.	882.	907.	910.	893.	863.	878.	872.

RADIAN
CORPORATION

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NON-METHANE HYDROCARBONS C-B SHALE OIL PROJECT
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
GT 3000 :																	:	
2800 - 3000 :																	:	
2600 - 2800 :																	:	
2400 - 2600 :								1									:	1
2200 - 2400 :							1	0			1						:	2
2000 - 2200 :						1	0	0			0						:	1
1800 - 2000 :						0	0	0			0						:	0
1600 - 1800 :				1		0	0	0			0						:	1
1400 - 1600 :				0		0	0	0			0						:	0
1200 - 1400 :				0		0	0	0			0						:	0
1000 - 1200 :				0		0	0	0			0						:	0
800 - 1000 :				0		1	1	0			0						:	2
600 - 800 :		1		0	3	4	11	17	4	3	0						3 :	46
LT 600 :	148	138	151	245	359	522	540	635	923	1445	549	196	261	272	107	307	317 :	7115
TOTAL :	148	139	151	246	362	528	553	653	927	1448	550	196	261	272	107	307	320 :	7168
MEAN	253.	250.	225.	230.	211.	199.	211.	213.	174.	182.	200.	189.	171.	162.	196.	191.	214.	197.

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

CARBON MONOXIDE(CO) C-B SHALE OIL PROJECT
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

CONCENTRATION UG/M**3		WIND DIRECTION N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM		TOTAL
GT 4250	:					1		1									1		:	3
3750 - 4000	:					1		0									0		:	1
3500 - 3750	:					0		0									0		:	0
3250 - 3500	:					0		0									0		:	0
3000 - 3250	:					0		0									0		:	0
2750 - 3000	:					0		0	1								0		:	1
2500 - 2750	:					0		0	0		1						0		:	1
2250 - 2500	:					0	1	0	0		0						1		:	2
2000 - 2250	:					0	0	0	1		0						0		:	1
1750 - 2000	:					0	0	1	0	1	0						0		:	2
1500 - 1750	:					0	0	0	0	0	0	1					0		:	1
1250 - 1500	:					0	0	0	0	0	0	0					0		:	0
LT 1250	:	133	123	123	164	271	371	399	391	525	762	331	126	157	168	81	390	215	:	4660
TOTAL	:	133	123	123	164	273	372	401	393	526	763	332	126	157	168	81	392	215	:	4672
MEAN		338.	349.	356.	329.	351.	333.	341.	325.	326.	397.	348.	320.	314.	311.	325.	345.	322.		326.

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

      OZONE(O3)                                                            C-B SHALE OIL PROJECT
                               TRAILER NO. -  23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                           WIND DIRECTION
                  N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  CALM   TOTAL
 CONCENTRATION
   UG/M**3
   GT    240 :                                                                                                      :
 220  -  240 :                                                                                                      :
 200  -  220 :                                                                                                      :
 180  -  200 :                                                                                                      :
 160  -  180 :                                                                                                      :
 140  -  160 :                                                                                                      :
 120  -  140 :                                                                                                      :
 100  -  120 :                                                                                                      :
  80  -  100 :     12    10    11    21    39    42    59    90   266   129    69    25    30    21    15     6     6 :   851
  60  -   80 :    155   158   177   298   405   607   639   681   858  1464   480   171   201   263   136   174   293 :  7160
  40  -   60 :     11     7    14     7    14    22    13     6    11    51    71    36    79   101    10   117    71 :   641
  20  -   40 :      0     0     0     0     0     0     0     0     0     0     1     0    14     6     0    33     3 :    57
   LT     20 :      0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0 :     0

   TOTAL     :    178   175   202   326   458   671   711   777  1135  1644   621   232   324   391   161   330   373 :  8709
             ...........................................................................................................

    MEAN          71.   70.   70.   71.   72.   71.   72.   72.   74.   72.   59.   68.   64.   64.   69.   58.   66.   70.
```

TABLE VIII
DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

RADIAN
CORPORATION

```
                    DIURNAL VARIATION OF NITROGEN OXIDES(UG/M**3)
                      TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                            HOUR
         1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24  MEAN
DAY

   1     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    1
   2     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
   3     *    *    *    *    *    *    *    *    *    *     :        *    *         *    *    *    *    *    *    *    *    *    0
   4     *    *    *    *    *    *    *    *    *    *    *    *    *    *     :   *:                                           1
   5                                                                       :   *    *    *    *    *    *    *    *    *    *    1
   6     *    *    *    *    *    *    *    *    *    9    *    *    *    *    *     :   *   10    *    *    *    *   15    *    3
   7     *    *    9   24    *    *    *    *    *    *:    :  12    *                                           11    *    *    6
   8     *    *        16   23   13         *    *    *    *    *    *    *    *    *    *    *    *    *    *         *    *    4
   9     *    *              *    *    *    *    *    *          :                                                               2
  10
  11                                                                  :    :
  12
  13                     :                                                 :    :
  14                     :                                                               *    *    *    *    *    *    *    *    0
  15     *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  16     *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  17     *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  18     *    *    *    *    *    *    *    *    *    *                                                                          0
  19                                                                            :   *:   *    *    *    *    *    *    *    *    0
  20     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  21     *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
  22     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  23     *    *                                                                                                                  0
  24                                                   :   *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  25     *    *    *    *    *    *    *    *    *    *    *   11    *:   *    *    *    *    *    *    *    *    *    *    *    1
  26     *    *    *    *    *    *    *    *    *    *    *:    :   *:    :    :    :   *:   *    *    *    *    *    *    *    0
  27     *    *    *    *    *    *    *    *    *    *    *    *    *    *     :   *:                                           1
  28                                                        :    :        *    *    *    *    *    *    *    *    *    *    *    0
  29     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  30     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    1
  31     *    *    *    *    *    *    *    *    *    *    *:                                                                    1
MEAN     0    1    0    2    1    1    0    0    1    1    1    2    1    1    0    1    0    1    0    0    0    1    1    1

                         TOTAL NUMBER OF OBSERVATIONS =  5571     MEAN  =        1.

               * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

               : INDICATES CALIBRATION DURING THE HOUR
```

RADIAN
CORPORATION

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                                   DIURNAL VARIATION OF NITRIC OXIDE(UG/M**3)
                                 TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                 HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

 1        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
 2        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
 3        *   *   *   *   *   *   *   *   *   *    :      *   *       *   *   *   *   *   *   *   *   *     0
 4        *   *   *   *   *   *   *   *   *   *   *   *   *   *    :  *:                                    0
 5                                                             :  *   *   *   *   *   *   *   *   *   *     0
 6        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    :  *   *   *   *   *   *   *   *     0
 7        *   *   *   *   *   *   *   *   *   *:   :  *   *                                   11  *   *     2
 8        *   *       15  14  13      *   *   *   *   *   *   *   *   *   *   *   *   *   *       *   *     4
 9        *   *           *   *   *   *   *   *        :                                                    2
10
11                                                         :   :
12
13                     :                                       :   :
14                     :                                                  *   *   *   *   *   *   *   *     0
15        *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
16        *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
17        *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
18        *   *   *   *   *   *   *   *   *   *                                                             0
19                                                                 :  *:  *   *   *   *   *   *   *   *     0
20        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
21        *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *     0
22        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
23        *   *                                                                                             0
24                                             :  *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
25        *   *   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *     0
26        *   *   *   *   *   *   *   *   *   *   *:   :  *:   :   :   :  *:  *   *   *   *   *   *   *     0
27        *   *   *   *   *   *   *   *   *   *   *   *   *   *    :  *:                                    0
28                                                 :  *:  *   *   *   *   *   *   *   *   *   *   *   *     0
29        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
30        *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
31        *   *   *   *   *   *   *   *   *   *   *:                                                        0
MEAN      0   1   0   0   1   1   0   0   0   0   0   1   1   0   0   0   0   0   0   0   0   0   1   0

                        TOTAL NUMBER OF OBSERVATIONS =  5595    MEAN  =     0.

               * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

               : INDICATES CALIBRATION DURING THE HOU
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                                DIURNAL VARIATION OF NITROGEN DIOXIDE(UG/M**3)
                                  TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                   HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
  DAY

   1       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     1
   2       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
   3       *   *   *   *   *   *   *   *   *   *    :      *   *       *   *   *   *   *   *   *   *   *     0
   4       *   *   *   *   *   *   *   *   *   *   *   *   *   *    :  *:                                    0
   5                                                            :  *   *   *   *   *   *   *   *   *   *     1
   6       *   *   *   *   *   *   *   *   *   9   *   *   *   *   *    :  *   *   *   *   *   *  15   *     2
   7       *   *   9  24   *   *   *   *   *   *:   :  *   *                                   *   *   *     4
   8       *   *       *   9   *       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *       *   *     0
   9       *   *           *   *   *   *   *   *        :                                                    0
  10
  11                                                    :   :
  12
  13                   :                                       :   :
  14                   :                                               *   *   *   *   *   *   *   *     0
  15       *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  16       *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  17       *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  18       *   *   *   *   *   *   *   *   *   *                                                             0
  19                                                               :  *:  *   *   *   *   *   *   *   *     0
  20       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  21       *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *     0
  22       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  23       *   *                                                                                             0
  24                                           :  *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  25       *   *   *   *   *   *   *   *   *   *   *  11   *:  *   *   *   *   *   *   *   *   *   *   *     1
  26       *   *   *   *   *   *   *   *   *   *   *:   :  *:   :   :   :  *:  *   *   *   *   *   *   *     0
  27       *   *   *   *   *   *   *   *   *   *   *   *   *   *    :  *:                                    1
  28                                                :   :      *   *   *   *   *   *   *   *   *   *   *     0
  29       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     0
  30       *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *     1
  31       *   *   *   *   *   *   *   *   *   *   *:                                                        1
   MEAN    0   0   0   2   1   0   0   0   1   1   1   2   1   0   0   0   0   0   0   0   0   0   1   0

                          TOTAL NUMBER OF OBSERVATIONS =  5571     MEAN  =       0.

                 * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

                 : INDICATES CALIBRATION DURING THE HOUR
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RADIAN
CORPORATION

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                  DIURNAL VARIATION OF SULFUR DIOXIDE(UG/M**3)
                    TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                          HOUR
        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24  MEAN
DAY

  1     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
  2     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
  3     *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0
  4     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *     1
  5     *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *     0
  6     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     :   *    *    *    *    *    *    *    *     0
  7     *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0
  8     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
  9     *    *         *    *    *    *    *    *    *         *:   *    *    *    *    *    *    *    *    *    *    *    *     1
 10     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     1
 11     *    *    *    *    *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *    *    *    *    *    *     1
 12     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     :   *    *    *    *    *    *    *     0
 13     *    *    *    *:   *    *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *    *    *    *    *     0
 14     *    *    *    *:   *    *    *    *    *    *    *    *    *    *              *    *    *    *    *    *    *    *     0
 15     *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
 16     *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
 17     *    *    *    *:   *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *     0
 18     *    *    *    *    *    *    *    *    *    *          :    :    :    :  13:   *    *    *    *    *    *    *    *     1
 19     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     1
 20     *    *    *   13    *    *    *    *    *    *    *    *    *    *    *   13    *    *    *    *    *    *    *    *     4
 21     *    *    *   13   16   16   15   16   16   16    *:   *    *    *    *    *    *    *    *    *    *    *    *    *     6
 22     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     4
 23     *    *    *    *    *    *    *   13    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    10
 24     *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *   13    *    *    *   14     8
 25    13    *    *    *    *    *    *    *    *    *    *    *    *:  14   15   13    *   14   15   13   13    *   14   13    10
 26    14    *    *   15   15    *    *    *    *    *    *:   *   14    *    *    *    *    *    *    *    *    *    *    *     5
 27     *    *    *    *    *    *    *    *    *     :   *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0
 28     *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *     0
 29     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
 30     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *     0
 31     *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *     0
 MEAN   2    2    2    3    3    2    2    2    2    2    1    2    1    1    1    3    1    1    1    2    1    1    2    2

                   TOTAL NUMBER OF OBSERVATIONS =  8660     MEAN  =       2.

            * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

            : INDICATES CALIBRATION DURING THE HOUR
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RADIAN
CORPORATION

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                 DIURNAL VARIATION OF HYDROGEN SULFIDE(UG/M**3)
                    TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                              HOUR
      1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    2
  2   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    3
  3   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    2
  4   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *    0
  5   *   *   *   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *    0
  6   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   :   *   *   *   *   *   *   *   *    0
  7   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *                        0
  8
  9                                               *:  *   *   *   *   *   *   *   *   *   *   *   *    0
 10   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 11   *   *   *   *   *   *   *   *   *   *   *   *   *:  :   *   *   *   *   *   *   *   *   *   *    0
 12   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 13   *   *   *   *:  *   *   *   *   *   *   *   *   *   *:  :   *   *   *   *   *   *   *   *   *    0
 14   *   *   *   *:  *   *   *   *   *   *   *   *   *   *           *   *   *   *   *   *   *   *    0
 15   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 16   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 17   *   *   *   *:  *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *    0
 18   *   *   *   *   *   *   *   *   *   *       :   :   :   :   *:  *   *   *   *   *   *   *   *    0
 19   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 20   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    1
 21   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
 22   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 23   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 24   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 25   *   *   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *    0
 26   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
 27   *   *   *   *   *   *   *   *   *   :   *:  *   *   *   *:  *   *   *   *   *   *   *   *   *    0
 28   *   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *   *   *   *   *    0
 29   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 30   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 31   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
MEAN  1   1   1   1   1   0   0   1   1   1   0   0   0   0   0   0   0   0   0   0   0   0   0   1

                    TOTAL NUMBER OF OBSERVATIONS =  8209    MEAN  =      0.

          * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

          : INDICATES CALIBRATION DURING THE HOUR
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RADIAN CORPORATION

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                    DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M**3 X 10**-1)
                        TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                     HOUR
         1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24   MEAN
DAY

  1    105  106  105  105  105  105  105  106  107  106  105  105  104  105  105  104  104  104  105  104  105  105  105  105    106
  2    105  105  105  105  104  104  105  105  105  104  104  105  104  104  104  104  105  105  105  104  104  104  104  104    105
  3    104  103  103  103  103  103  104  104  103  103  102  102  102  102  103  103  101  102  103  102  103  104  104  103    103
  4    104  104  103  104  104  104  104  104  104  104  105  105  106  106  106  105  101  101  101  101  102  102  102  103    104
  5    103  103  103  104  103  103  103  103  104  104  104  107  108  107  108  107  109  110  110  113  117  119  120  122    109
  6    125  127  134  134  136  139  140  143  146  150  151  149  149  161  141  123 :108  114  119  123  127  132  136  139    136
  7    142  144  145  147  148  149  151  155  160  162  140  137  140  139  137  132  128  127  129                           143
  8
  9
 10
 11                                                                 :     :103  103  106  106  105  105  104  104  104  103    105
 12    103  103  102  102  102  102  102  102  102  102  102  100  101  101  101  101  107  100   99  100  102  101  102  105    102
 13    104  105  104      :107  107  108  107  108  108  107  107  107  107 :    :105  105  104  105  104  105  108  108  109    107
 14    110  110  111      :111  108  106  106  104  105  105  105  105  105            108  110  106  105  105  106  106  105    107
 15    105  105  106      :105  106  105  105  105  105  105  105  104  104  104  108  107  106  106  105  105  105  105  104    106
 16    104  104  109      :105  105  104  104  104  104  105  105  105  104  104  108  107  107  107  107  107  107  107  107    106
 17    106  106  107      :106  106  107  106  107  107  107  107  108  122  142  126  148                                     114
 18                                                            :    :    :    :    :
 19                                                                          86   99   98   98   99   99   99   99   99   99     98
 20     99  100   99   99   98   98   98   98   98   98  100  100  100  100  100   99   98   98   98   98   98   98   99   98     99
 21     98   98   98   98   98   98   98   99   99   99   98   98   98   98   98   99   99   98   99   98   99   98   99   99     99
 22     99  101  103  103  101  102  102  102  102  102  102  102  102  102  102  103  102  101  102  103  103  104  104  104    103
 23    104  104  104  104  106  106  106  105  105  104  105  106  106  105  106  105  103  103  103  103  103  103  103  105    105
 24    108  109  108  105  104  102  101  101  104   96  105 :103  102  104  102  102  102  103  103  101  101  102  102  102    104
 25    102  102  102  102  102  102  104  102  102  102  103  103  102  100  101  101  101  101  101  100  101  101  100  100    102
 26    101  101  100  100  100  101  101  101  101  101  101  100  101  101  101  101   98   91   82   86   79   77   77   84     96
 27     93   80   76   76   75   76   76   75   76   84   83   79   81   82   96 :104 :105  105  105   89   88   86   79   80     86
 28     78   78   77   77   79   78   82   98   80   93  100  105  106  104  107  106  109  108  107  107  107  107  107  107     97
 29    107  107  107  107  107  106  106  107  108  109  111  114  116  116  109  111  109  109  109  111  111  109  108  109    110
 30    110  112  109  110  109  109  108  109  109  111  113  116  117  117  115  114  112  110  109  109  109  109  108  109    111
 31    109  108  109  108  108  106  108  109  109  112  113  110  110  111  110  111  109  108  107  107  109  107  107  107    109
MEAN   106  105  106  105  106  106  106  107  107  108  107  107  108  109  109  108  107  105  105  104  104  104  104  105

                         TOTAL NUMBER OF OBSERVATIONS =  7145     MEAN  =     106.

                 : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF METHANE(UG/M**3 X 10**-1)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	90	91	91	91	91	91	91	91
2	91	91	91	91	91	91	91	91	91	92	92	92	92	92	91	92	92	92	91	92	92	92	91	91	92
3	91	91	91	91	90	91	91	91	90	90	91	91	90	90	92	92	91	90	90	90	90	91	91	91	91
4	91	91	91	91	91	91	91	91	91	91	91	91	92	92	92	92	94	94	93	93	93	93	93	93	92
5	93	92	93	93	92	91	92	91	92	92	92	93	94	94	94	94	95	95	94	95	97	99	96	96	94
6	96	95	95	95	95	95	94	92	96	94	94	94	93	93	93	94:	94	94	94	94	94	93	93	92	94
7	93	93	93	93	93	93	93	93	93	93	95	93	93	92	93	92	92	92	91	92	92	91	91	91	93
8	91	91	91	91	91	91	91	91	91	92	94	95	95	94	94	94	93	94	94	93	93	93	93	94	93
9	95	93		94	94	94	93	93	101	93		94	93	92	92	93	93	93	93	93	93	92	92	92	94
10	92	92	92	92	92	91	92	91	91	91	91	91	91	91	91	91	91	90	91	91	91	91	91	91	92
11	91	91	91	91	91	91	91	91	91	91	92	92	92:	:	90	89	89	88	89	89	88	88	88	88	91
12	88	88	88	88	88	88	89	89	89	89	89	89	88	88	89	89	91	90	89	89	90	90	90	91	89
13	91	91	91	:	92	91	92	91	91	91	91	92	90	91:	:	93	92	91	91	91	91	92	92	92	92
14	92	92	93	:	93	92	91	91	90	90	90	90	90	90			92	92	88	90	90	89	89	89	91
15	89	89	90	:	91	91	90	90	90	90	90	91	91	91	91	91	91	91	91	91	90	91	90	90	91
16	90	90	89	:	91	91	91	91	91	91	91	91	91	91	89	90	90	90	90	91	90	90	90	90	91
17	90	90	90	:	90	89	90	90	91	91	91	91	91	83	75	82	96								89
18												:	:	:	:	:									
19															81	93	92	92	91	91	91	91	90	90	91
20	91	90	90	90	90	90	90	90	90	90	90	90	90	90	89	89	90	91	90	89	89	89	89	88	90
21	88	88	88	88	88	88	89	89	88	88	88	88	88	87	87	87	88	88	88	88	88	87	87	87	88
22	88	89	91	90	89	89	89	89	89	89	88	88	88	88	88	89	88	88	88	89	88	90	90	89	89
23	89	89	89	90	91	91	90	89	89	88	89	89	89	88	89	88	87	86	87	87	86	87	87	88	89
24	90	90	91	89	88	87	86	86	85	85	82:	84	81	82	85	85	84	84	84	83	83	83	83	82	86
25	83	83	83	83	83	83	83	82	82	82	82	82	82	83	82	82	82	81	81	81	81	80	80	80	82
26	80	80	79	79	79	79	79	79	79	79	80	79	79	79	79	79	78	78	78	78	78	77	77	77	79
27	75	76	76	76	76	76	75	75	76	76	77	76	76	76	77:	79:	79	80	80	79	80	78	79	78	78
28	79	78	77	77	78	77	78	78	78	78	78	78	79	78	77	78	77	78	78	78	77	77	77	77	78
29	75	76	76	76	75	76	76	75	75	75	75	76	76	76	75	75	75	76	76	77	76	74	74	74	76
30	74	73	73	72	72	71	71	71	70	71	71	72	72	71	70	69	69	69	68	68	67	67	67	67	71
31	65	67	66	65	65	65	64	64	64	64	65	65	65	63	63	63	63	63	62	62	62	61	61	60	64
MEAN	88	88	88	87	88	87	87	87	87	87	87	88	87	87	86	87	88	87	87	87	87	87	87	87	

TOTAL NUMBER OF OBSERVATIONS = 8196 MEAN = 87.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

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                  DIURNAL VARIATION OF NON-METHANE HYDROCARBONS(UG/M**3 X 10**-1)
                          TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                 HOUR
        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

  1    14   14   14   14   14   14   15   15   16   15   14   14   14   14   14   14   13   14   14   13   14   14   14   14    15
  2    15   14   14   13   13   13   13   13   13   12   13   13   12   12   13   12   13   12   13   12   13   12   12   12    13
  3    12   12   12   12   13   13   13   13   13   13   12   11   12   11   10   10   10   12   13   12   13   14   13   13    13
  4    12   12   12   13   14   13   13   13   13   14   14   14   14   13   14   13    7    7    8    8   10    9    9   10    12
  5     9   10   10   10   11   12   11   12   12   11   12   13   13   12   13   13   15   15   16   17   20   20   23   26    15
  6    29   32   35   39   42   44   46   51   50   55   55   56   55   67   48   29:  14   19   24   29   34   39   43   46    41
  7    48   50   52   53   55   56   58   62   66   69   45   43   47   47   44   39   36   35   37                            50
  8
  9
 10
 11                                                                :    :  13   14   17   18   17   16   16   15   15   15    16
 12    14   15   14   14   14   14   13   14   14   13   14   11   12   12   12   11   16   10   10   11   12   11   12   15    13
 13    14   13   13    :  15   16   16   16   17   17   16   15   17   16:   :  12   12   13   14   14   14   16   16   17    15
 14    17   17   18    :  17   16   15   16   15   15   15   16   15   16             16   18   18   15   16   17   17   16    17
 15    17   16   16    :  14   16   15   15   15   15   15   14   14   13   14   17   16   16   15   15   15   15   14   14    15
 16    10   14   20    :  13   14   13   13   14   13   14   14   14   14   15   18   17   17   17   17   17   17   18   17    16
 17    15   17   17    :  16   17   17   16   16   16   16   17   17   23   67   43   51                                      24
 18                                                           :    :    :    :    :
 19                                                                          5    6    6    7    8    8    8    8    8    9     8
 20     8   10    9    8    8    8    8    8    8    8    9   10   10   10   10   10    7    7    8    9    9    9   10    9     9
 21    10   10   10   10   11   10    9   10   10   10   10    9   10   11   10   11   11   10   11   11   11   11   11   12    11
 22    12   12   12   13   12   12   12   13   13   13   14   14   14   14   14   14   14   13   14   14   15   15   14   15    14
 23    15   15   15   15   15   16   16   16   16   16   15   17   17   17   17   17   16   16   16   16   16   16   16   17    17
 24    18   18   18   17   16   15   15   16   19   16   22:  19   21   22   17   17   18   20   18   18   18   19   19   20    19
 25    19   19   19   19   19   19   22   20   20   21   20   21   20   17   19   19   19   19   19   19   20   20   19   20    20
 26    21   21   21   21   21   22   21   21   22   22   21   20   21   21   21   21   20   13    4    8    1    0    0    7    17
 27    16    3    0    0    0    0    0    0    0    8    6    3    5    6   19:  25:  25   25   25   10    8    7    0    1     8
 28     0    0    0    0    1    1    4   20    3   15   22   26   27   26   30   29   32   30   28   29   30   29   30   30    19
 29    31   31   31   31   31   31   31   32   33   34   37   39   40   40   34   36   34   34   33   34   35   35   35   35    34
 30    36   39   36   37   36   37   37   38   39   39   42   44   45   46   44   45   44   41   41   41   41   42   41   42    41
 31    42   42   43   42   42   43   43   44   45   47   48   45   45   48   47   48   46   45   45   45   48   46   46   47    46
MEAN   19   19   19   20   19   19   20   21   21   22   21   21   22   22   23   21   21   19   19   18   19   19   19   20

                      TOTAL NUMBER OF OBSERVATIONS =   7143    MEAN  =      20.

          : INDICATES CALIBRATION DURING THE HOUR
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RADIAN CORPORATION

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                  DIURNAL VARIATION OF CARBON MONOXIDE(UG/M**3 X 10**-1)
                      TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                    HOUR
         1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

 1
 2
 3
 4
 5
 6
 7
 8
 9
10
11
12
13                                                                             17   71   19   19   21   23   23   25   26    28
14        27   27   29     :  30   30   32   32   33   34   37   36   35   37             42   34   44   33   32   51   32   32    35
15        31   32   32     :  33   33   33   33   33   35   34   34   37   33   32   31   70   32   30   30   29   29   28   28    34
16        29   29   29     :  30   29   29   30   29   30   28   30   30   30   29   29   30   30   28   27   29   28   28   28    30
17        30   28   28     :  30   29   31   30   32   30   31   30   92   19   18   20   63                                       34
18                                                             :    :    :    :    :                                           34
19                                                                        30   30   31   29   29   28   29   28   28   31    30
20        29   31   30   29   32   29   30   46   29   31   33   33   29   30   32   31   51   33   32   30   30   28   30   30    32
21        28   29   30   30   29   29   26   32   29   30   32   31   30   29   27   29   30   29   28   27   29   28   26   27    29
22        28   30   32   34   33   33   33   32   32   32   42   31   31   34   32   33   33   33   33   34   34   32   31   32    33
23        30   30   32   29   31   32   33   34   33   33   33   43   31   33   34   33   35   33   32   31   32   32   30   31    33
24        29   30   32   31   29   30   31   32   29   71   72:  26   28   32   33   28   26   26   25   24   25   25   25   25    32
25        25   24   25   24   25   24   24   25   25   25   25   25   25   27   28   26   25   24   25   24   24   25   24   24    25
26        25   25   24   25   24   24   24   24   24   25   25   24   37   25   26   25   25   24   26   31   36   39   42   44    28
27        45   48   49   51   53   54   53   53   56   64   62   57   58   57   56:  26:  26   25   25   24   24   25   25   25    44
28        24   25   24   23   24   24   24   24   24   25   25   23   23   23   24   23   25   24   25   25   25   27   24   23    25
29        24   23   23   24   24   24   24   24   24   24   26   25   25   25   24   24   23   24   23   23   23   23   23   23    24
30        28   35   38   41   44   46   48   49   51   53   56   55   55   54   55   54   55   54   52   52   51   52   52   52    50
31        51   52   50   51   51   50   50   49   51   50   51   31   25   25   24   25   25   26   25   25   26   26   26   26    38
MEAN      31   32   32   33   33   33   33   35   34   37   38   34   37   33   31   29   38   30   30   29   30   31   30   30

                              TOTAL NUMBER OF OBSERVATIONS =  4652     MEAN  =      33.

                  : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF OZONE(UG/M**3)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	72	70	71	70	71	68	66	71	71	73	77	77	77	76	76	77	79	78	77	76	75	74	71	70	74
2	69	70	70	68	65	67	67	67	67	68	68	69	70	72	72	71	69	69	69	69	68	69	68	68	69
3	69	69	70	69	68	67	67	68	68	69	69:	70	71	68	63	62	64	66	71	76	72	69	68	67	69
4	65	64	63	61	61	59	61	59	58	61	68	70	72	73	72:	70	68	66	63	62	63	61	57	53	64
5	53	51	54	58	61	59	61	53	54	59	59	60	62	64:	64	63	56	56	63	64	63	62	62	62	60
6	62	62	63	64	65	65	54	64	63	66	62	71	75	77	76	:	73	71	67	69	70	72	76	77	69
7	74	75	74	75	73	72	72	72	73	74:	74:	76	78	79	78	79	78	77	75	73	72	72	73	72	75
8	74	70	69	67	66	70	71	70	66	64	64	63	62	65	63	64	65	64	64	67	67	66	65	64	67
9	64	64		64	65	66	68	68	67	67		72:	73	74	74	73	72	72	72	72	72	74	75	73	71
10	74	74	75	75	74	74	74	74	75	75	77	78	79	79	79	78	79	80	81	81	80	80	79	78	78
11	77	76	75	75	73	73	74	75	72	74	77	80	83:	:	78	78	77	77	77	76	77	76	77	77	77
12	77	77	76	76	75	74	73	73	74	74	74	74	74	75	75	75	76	82	84	85	87	87	88	88	79
13	88	88	86	81:	78	79	79	76	75	74	79	81	83	82:	:	76	76	78	74	74	75	72	69	68	78
14	69	71	70	71:	73	73	69	71	68	66	71	77	78	79			83	81	75	81	79	79	80	82	75
15	82	83	82	82:	82	83	81	80	80	82	83	84	84	84	81	82	83	81	79	81	79	80	80	80	82
16	84	81	60	76:	74	73	73	71	69	67	75	75	73	75	76	72	67	65	64	62	66	65	68	74	72
17	72	75	75	75:	74	75	77	76	74	70	75	77	67:	71	73	74	72	70	69	70	62	62	62	61	72
18	61	60	61	61	62	63	60	62	55	50		:	71:	72	72	73	74	72	70	71	71	72	72	69	67
19	72	72	74	71	70	70	66	66	65	65	69	70	73	75	74	68	69	70	67	64	66	67	67	67	69
20	71	70	66	72	72	71	59	63	66	64	72	73	75	76	76	74	71	67	66	66	69	70	72	72	71
21	72	70	70	72	70	72	75	77	76	72	71:	72	79	79	78	79	76	77	75	73	75	72	70	70	74
22	71	74	75	74	65	60	58	62	66	66	68	70	69	70	69	63	59	54	54	53	45	45	47	49	62
23	54	54	57	48	43	41	40	38	41	51	54	56	64	65	66	64	61	58	57	46	48	41	33	35	51
24	44	42	54	50	53	63	62	62	58	56:	58	71	73	74	73	73	72	70	62	61	63	61	64	63	62
25	64	66	66	67	67	65	66	66	62	63	63	72	79:	79	79	81	80	76	76	75	74	74	75	73	71
26	72	71	72	73	71	68	67	65	67	73	75:	76	76	74	74	73	72	73	73	71	71	69	69	69	72
27	68	65	64	63	63	63	62	64	59	:	75:	74	74	74	73	72	72	72	70	71	69	70	70	69	69
28	69	68	69	69	70	67	67	65	66	65	69:	65:	68	69	70	70	70	66	64	64	64	66	64	65	67
29	69	70	70	70	70	66	65	65	61	61	68	73	75	75	74	72	72	70	66	65	64	62	61	63	68
30	63	62	62	61	62	59	62	63	58	62	74	75	77	77	78	79	78	74	69	69	71	71	69	70	69
31	74	71	72	72	74	74	74	74	69	70	71:	77	77	77	76	76	74	73	73	70	71	69	70	72	73
MEAN	69	69	70	68	69	68	68	68	66	67	70	73	74	75	74	73	73	72	70	70	70	69	69	69	

TOTAL NUMBER OF OBSERVATIONS = 8700 MEAN = 70.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

HOURLY TOTAL PRECIPITATION(HUNDREDTHS OF INCHES)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	0	0	6
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	0	0	

TOTAL NUMBER OF OBSERVATIONS = 8849 TOTAL = 6.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND SPEED AT 8 FEET(MPH)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	4	6	4	5	1	1	2	3	2	12	12	12	11	12	13	12	10	11	9	10	8	8	9	8
2	9	10	10	10	9	11	11	9	10	12	12	11	12	12	12	12	8	8	9	7	5	15	15	10	11
3	10	8	9	6	5	5	6	8	9	9	13	15	11	13	10	12	4	2	8	2	3	4	9	8	8
4	9	6	4	1	1	1	1	1	2	1	4	7	7	6	5	4	4	1	1	1	0	0	0	0	3
5	0	0	0	1	0	0	0	0	0	0	0	0	1	2	1	3	3	1	2	1	1	1	1	0	1
6	0	1	0	0	1	0	1	0	0	0	1	1	3	3	4	5	5	1	2	1	1	1	1	0	2
7	1	1	2	2	3	3	4	3	3	2	5	8	11	12	12	13	6	4	4	2	2	3	3	1	5
8	2	1	0	1	2	2	2	3	1	2	3	2	3	4	6	5	6	7	6	6	6	5	3	2	4
9	2	2		2	1	0	0	1	0	0		1	0	1	2	5	8	10	10	3	1	3	3	1	3
10	2	3	4	2	2	2	5	7	8	13	13	11	10	11	9	10	7	4	5	3	1	1	2	2	6
11	1	0	1	1	0	1	0	0	0	1	1	2	1	3	4	4	3	4	3	2	3	2	3	2	2
12	1	3	3	3	3	2	2	2	5	4	8	9	9	13	12	10	2	1	4	2	1	2	2	1	5
13	1	2	1	0	1	2	0	0	0	0	2	2	4	2	5	2	1	1	2	2	1	2	2	1	2
14	1	0	0	0	0	2	2	0	0	0	0	2	2	4			4	2	1	2	0	0	1	1	2
15	2	3	3	7	8	9	7	5	7	9	11	12	8	5	5	3	3	2	2	1	1	2	2	3	5
16	3	3	5	4	2	2	2	2	2	2	5	2	0	4	3	2	0	1	0	1	2	2	1	1	3
17	2	0	0	1	1	2	1	1	1	1	1	2	2	3	2	2	1	2	2	1	1	1	1	1	2
18	1	2	1	2	1	1	1	1	1	1		1	6	6	5	6	7	6	2	2	2	2	3	3	3
19	3	1	3	2	3	3	1	1	1	2	2	2	2	4	3	2	0	1	1	1	0	0	0	1	2
20	0	1	2	1	1	2	1	2	1	1	2	0	2	2	1	6	4	4	2	3	1	2	1	2	2
21	1	1	0	1	1	1	1	1	1	2	1	1	5	7	6	6	3	2	2	1	1	1	2	3	3
22	3	1	3	3	1	2	1	2	2	1	0	1	1	1	1	2	0	0	0	0	1	1	1	0	2
23	0	1	2	1	1	1	1	1	1	1	1	2	1	3	4	4	2	1	0	1	0	0	0	0	2
24	0	0	1	1	2	1	1	1	0	1	0	2	2	3	2	2	1	1	2	4	1	1	1	1	2
25	1	1	1	1	1	2	1	0	1	1	1	1	6	8	8	7	7	4	4	1	1	2	2	2	3
26	1	2	3	2	2	1	1	1	1	3	7	9	10	10	11	9	10	8	7	6	2	1	1	1	5
27	2	1	1	1	2	2	2	1	1	3	3	5	4	5	8	8	8	6	6	3	0	2	1	1	4
28	0	0	1	0	1	1	2	2	1	1	1	3	5	6	6	5	5	5	3	3	1	1	3	0	3
29	1	1	0	1	1	2	2	2	2	2	1	2	2	3	6	7	6	1	0	0	1	1	0	1	2
30	1	1	0	0	1	2	1	0	1	0	1	2	2	3	2	1	2	0	2	2	1	1	1	1	2
31	2	1	1	2	2	1	1	2	2	1	3	2	4	6	4	6	4	3	2	3	2	2	2	4	3
MEAN	1	2	3	2	2	2	2	2	3	3	4	5	5	6	6	6	5	4	4	3	2	3	3	3	

TOTAL NUMBER OF OBSERVATIONS = 8840 MEAN = 4.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 30 FEET(MPH)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	7	9	0	8	2	3	4	4	3	15	16	15	15	16	17	16	13	14	12	14	11	11	12	11
2	12	14	13	13	12	15	15	13	14	15	16	15	16	15	16	16	11	11	12	10	8	19	19	13	14
3	14	11	12	9	7	7	9	11	13	12	18	19	15	17	13	15	7	3	11	4	6	6	13	12	12
4	13	8	7	3	3	3	2	4	3	3	5	9	10	9	7	6	6	2	2	3	1	2	1	1	5
5	0	1	1	2	2	0	1	1	0	1	0	0	2	2	3	5	4	3	3	2	3	3	2	1	2
6	0	1	1	0	3	1	3	0	2	1	2	1	4	4	5	7	7	4	5	2	0	1	2	2	3
7	2	2	3	4	7	5	5	5	5	3	7	11	14	16	16	17	8	7	6	4	4	6	5	3	7
8	4	3	2	3	3	4	5	6	3	4	4	3	5	6	8	7	9	10	9	9	8	7	5	5	6
9	4	4		3	2	0	0	1	1	1		1	1	2	3	7	11	13	13	5	3	5	5	3	4
10	4	6	7	3	4	4	8	10	11	16	17	14	14	14	12	14	10	6	7	5	3	3	4	4	9
11	2	1	2	2	1	2	1	1	1	3	2	2	2	4	5	5	5	7	4	4	6	4	4	4	4
12	3	5	4	4	5	4	3	3	7	5	11	12	12	17	16	13	4	3	6	4	2	3	3	3	7
13	3	3	3	2	2	3	1	1	0	2	3	3	6	3	7	4	2	2	3	3	2	3	3	3	3
14	1	0	0	0	1	3	3	0	1	1	1	3	3	5			6	3	2	4	2	1	2	3	2
15	4	6	5	10	11	13	11	9	10	12	14	15	10	7	7	4	5	5	5	3	3	3	3	5	8
16	5	5	7	7	3	3	4	4	3	4	7	3	1	6	5	4	1	2	1	3	3	4	3	2	4
17	4	1	1	2	2	4	2	3	3	1	3	4	3	4	3	3	3	3	3	2	1	2	1	2	3
18	2	3	1	2	2	2	2	1	2	3		2	9	8	7	8	8	8	3	3	3	4	5	4	4
19	4	2	5	5	4	5	2	1	1	3	3	3	3	5	5	3	2	1	3	3	0	0	0	1	3
20	0	4	5	3	3	3	2	3	2	2	3	2	3	2	2	8	7	6	4	6	3	3	3	4	4
21	2	2	1	2	3	1	2	3	2	4	3	2	7	9	8	8	5	3	4	3	3	4	3	5	4
22	6	3	5	5	3	3	3	4	3	3	1	2	2	3	2	4	1	1	1	0	2	3	2	2	3
23	2	3	3	2	2	2	2	3	3	3	2	4	1	4	6	6	4	4	1	2	0	0	1	0	3
24	1	2	2	3	4	2	3	2	1	1	1	3	3	5	3	3	3	2	4	7	2	1	2	3	3
25	3	3	3	2	1	3	2	1	2	1	3	2	7	10	10	10	9	7	7	2	2	4	4	4	5
26	2	3	5	4	4	2	3	3	2	4	9	11	13	13	15	12	13	11	10	9	3	2	3	3	7
27	4	1	2	3	4	4	3	2	2	4	5	6	5	7	10	10	12	9	9	6	2	2	2	2	5
28	1	1	1	1	3	1	4	3	2	2	2	3	7	8	6	7	7	7	6	5	2	1	4	1	4
29	2	1	1	3	2	4	4	4	4	3	2	3	3	5	8	10	8	3	1	2	1	3	1	1	4
30	1	1	1	1	3	2	1	1	1	1	3	3	3	4	3	2	4	0	4	4	1	1	2	1	2
31	2	3	2	4	3	3	1	4	3	2	4	3	5	8	6	8	5	5	3	6	4	4	4	8	5
MEAN	4	4	4	4	4	4	4	4	4	4	6	6	7	8	8	8	7	6	6	5	4	4	5	4	

TOTAL NUMBER OF OBSERVATIONS = 8840 MEAN = 5.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND SPEED AT 100 FEET(MPH)
TRAILER NO. = 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	12	10	12	9	11	3	4	5	5	3	16	18	18	17	19	20	20	16	18	16	18	15	15	16	14
2	17	18	17	17	16	19	19	18	18	19	19	17	18	18	19	19	14	13	15	12	10	22	22	15	17
3	17	14	15	11	9	8	11	13	15	15	20	22	17	20	15	18	8	4	13	5	8	9	18	17	14
4	17	12	10	6	6	4	4	8	6	4	7	11	11	10	8	7	7	3	3	5	0	3	1	1	7
5	0	1	1	2	3	0	2	1	0	1	0	1	2	3	3	6	6	4	4	3	5	4	3	1	3
6	0	0	1	2	6	3	2	0	0	1	3	2	6	5	6	8	9	5	6	3	1	0	2	3	4
7	2	3	5	6	9	7	8	7	8	4	8	13	17	18	19	20	10	8	9	5	5	8	7	4	9
8	8	4	4	4	3	4	6	5	4	4	5	3	5	7	9	8	10	12	11	11	11	10	7	7	7
9	7	5		4	1	1	0	2	2	2		2	1	2	3	8	13	16	17	6	4	6	7	3	6
10	5	7	9	5	5	5	10	13	14	19	20	16	16	16	14	16	12	9	10	7	4	3	5	2	11
11	3	1	2	4	3	2	1	0	1	3	2	3	3	5	6	6	7	9	6	5	7	6	4	4	4
12	3	6	5	6	7	6	4	5	9	7	13	14	14	20	20	15	5	4	8	4	3	3	4	4	8
13	3	3	2	2	2	5	2	1	0	3	4	4	6	3	8	5	3	2	3	5	4	3	2	2	4
14	1	0	0	1	0	5	2	2	3	2	1	3	3	5			7	3	2	3	2	3	6	5	3
15	7	10	8	16	16	17	16	13	13	14	16	17	12	8	8	5	5	6	8	6	4	3	5	5	10
16	6	8	11	11	4	3	6	7	4	6	9	4	2	6	5	5	1	3	1	4	4	3	3	1	5
17	3	4	5	3	2	4	4	7	6	2	3	5	4	5	3	4	3	5	5	3	1	2	2	0	4
18	2	1	1	1	2	2	2	2	2	4		2	10	9	8	9	10	11	3	3	3	4	8	4	5
19	6	3	10	8	4	7	2	2	2	3	3	3	3	6	5	3	3	1	3	1	0	0	0	1	4
20	0	0	3	3	2	3	2	4	3	2	3	2	4	2	2	9	8	9	5	7	4	4	3	5	4
21	2	1	2	3	2	1	2	4	2	6	3	2	8	10	10	10	6	4	5	5	4	4	4	6	5
22	8	5	7	6	5	5	5	6	4	4	1	3	3	3	3	4	1	1	1	0	3	4	2	2	4
23	2	4	4	3	3	3	3	3	3	3	2	4	2	5	7	7	5	6	3	1	0	1	2	1	4
24	2	1	2	3	3	3	3	2	1	1	1	3	4	5	4	4	3	4	4	11	6	2	2	2	4
25	4	4	2	2	2	3	3	2	3	2	3	2	8	11	12	12	12	10	11	3	2	3	4	5	6
26	3	6	5	5	4	3	2	2	2	5	11	12	15	15	17	14	16	15	14	12	4	2	3	3	8
27	4	3	3	3	4	4	5	2	2	6	5	7	6	7	11	12	14	12	12	9	3	2	2	2	6
28	1	3	1	1	4	2	5	3	5	2	1	4	8	9	9	8	9	11	11	8	2	1	5	1	5
29	1	1	0	4	2	4	5	4	5	3	2	4	3	6	9	11	10	6	1	4	1	2	1	1	4
30	0	0	0	0	2	1	0	0	1	1	3	4	3	5	4	3	4	1	4	6	2	2	2	2	3
31	2	4	1	3	4	2	2	3	4	2	3	3	6	9	6	9	7	6	3	6	6	6	6	11	5
MEAN	5	5	5	5	5	5	5	5	5	5	7	7	8	9	10	10	8	8	8	6	5	5	5	5	

TOTAL NUMBER OF OBSERVATIONS = 8838   MEAN = 6.

* INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND SPEED AT 200 FEET(MPH)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	HOUR																								
1	15	14	15	12	16	5	5	5	5	4	18	20	19	18	20	22	22	19	23	20	22	19	19	21	16
2	21	23	21	21	21	23	23	18	21	21	20	18	20	19	21	21	16	15	18	14	12	26	25	18	20
3	20	15	16	12	10	9	13	15	17	16	22	24	19	21	16	19	9	5	15	6	10	11	22	20	16
4	20	16	13	8	8	6	4	9	8	5	7	11	11	11	9	8	8	3	3	6	0	1	0	0	8
5	0	1	1	1	1	0	2	1	0	1	0	0	2	3	3	6	6	5	4	4	6	6	4	1	3
6	0	0	0	2	4	2	2	0	0	2	2	2	6	6	7	8	10	8	5	3	1	0	2	6	4
7	4	6	7	8	9	7	10	9	10	4	8	14	17	19	21	21	10	11	10	5	4	9	9	6	10
8	8	5	3	4	1	3	4	4	4	5	4	3	5	7	9	8	10	13	12	12	11	12	8	9	7
9	8	8		4	1	0	0	0	1	2		2	1	2	3	8	15	20	21	9	5	9	8	4	6
10	5	8	12	6	7	8	13	17	18	22	22	18	17	18	14	18	15	11	14	10	6	6	6	3	13
11	5	1	4	8	0	6	1	0	0	2	1	2	3	5	6	6	8	11	8	4	8	4	2	1	5
12	1	6	5	8	8	6	6	6	12	8	15	14	15	22	22	17	7	5	9	5	3	4	5	4	9
13	4	5	1	3	1	4	2	1	1	2	4	4	6	4	8	5	3	2	4	4	3	3	1	0	4
14	0	0	0	0	0	6	4	4	5	0	1	2	3	6			7	4	3	3	3	7	9	7	4
15	12	14	11	17	20	20	18	16	17	15	16	16	12	9	8	6	4	3	8	8	4	2	7	4	12
16	6	8	15	15	5	3	6	7	5	6	10	4	1	6	5	5	1	2	2	4	6	4	2	1	6
17	2	6	11	0	4	3	8	10	10	3	4	4	4	5	3	4	4	6	7	4	0	3	3	1	5
18	1	2	1	0	2	1	2	3	5	4		3	10	9	8	10	12	16	5	2	2	3	12	5	6
19	7	5	14	10	4	6	3	2	1	3	4	3	3	6	5	3	3	1	3	2	1	0	0	0	4
20	0	1	1	2	3	1	2	5	7	4	3	2	5	3	3	10	10	12	4	6	2	3	2	5	4
21	3	0	3	3	2	2	2	5	2	7	2	1	8	11	10	11	7	5	5	6	4	2	3	6	5
22	9	6	9	6	7	7	7	8	6	4	2	3	3	3	3	4	1	0	2	2	5	4	2	3	5
23	3	4	4	3	3	3	3	3	3	3	2	4	2	5	7	7	6	7	4	2	1	3	3	1	4
24	2	2	3	4	2	4	1	2	5	3	1	4	5	6	4	4	4	5	3	12	10	6	3	2	4
25	1	1	0	3	4	1	1	0	1	2	3	2	8	12	13	12	14	13	15	6	4	1	3	3	6
26	5	7	4	5	4	7	5	3	3	7	12	12	16	17	19	15	19	19	19	16	4	3	2	3	10
27	4	9	6	2	3	5	8	5	3	7	5	8	7	8	12	12	15	15	17	13	5	4	2	5	8
28	4	7	4	3	6	5	4	4	8	3	1	4	8	9	9	8	9	14	12	9	3	1	5	2	6
29	0	0	1	4	3	3	3	3	6	2	2	4	3	6	10	12	11	7	4	5	2	1	2	2	4
30	0	0	1	1	2	1	0	1	0	1	3	4	3	6	4	3	4	1	3	5	6	6	5	7	3
31	0	4	2	2	2	3	2	1	2	2	3	3	6	10	7	10	8	7	2	5	6	7	8	12	5
MEAN	6	6	7	5	6	6	6	6	6	6	7	8	8	10	10	11	9	9	9	7	6	6	6	6	

TOTAL NUMBER OF OBSERVATIONS = 8838 MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET
TRAILER NO. = 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	190	186	187	188	184	139	83	220	114	151	191	199	204	210	209	207	209	205	199	198	198	203	198	196	189
2	195	201	201	196	194	197	193	198	198	199	197	197	196	207	201	200	191	192	186	186	170	189	176	170	193
3	177	172	165	163	151	147	157	161	160	153	169	177	181	182	188	175	173	192	212	293	225	217	202	203	181
4	204	202	211	226	209	208	196	202	205	232	282	290	280	276	240	195	212	33	132	306	147	171	202	278	221
5	192	224	178	202	206	167	194	74	205	263	15	356	309	308	296	295	291	284	255	268	279	259	251	207	251
6	183	227	189	228	154	155	225	171	215	99	11	303	221	196	194	201	195	171	108	139	208	223	109	71	183
7	55	83	100	113	155	162	138	109	141	165	198	198	211	212	199	195	191	163	127	104	126	137	138	107	148
8	105	120	126	86	91	147	142	179	268	271	284	314	341	301	304	315	302	314	297	292	291	299	281	268	288
9	281	250		229	209	199	211	166	148	124		105	32	75	57	200	196	187	190	150	99	172	161	67	165
10	92	140	154	99	101	112	175	185	182	187	191	191	188	188	186	190	187	163	173	117	95	109	97	100	151
11	189	89	154	124	33	24	331	193	75	90	19	9	11	224	227	196	190	168	104	104	131	109	128	147	121
12	145	139	106	87	106	73	85	109	182	181	192	202	201	209	205	212	196	252	162	132	38	198	130	123	155
13	114	76	84	114	80	123	107	82	90	71	114	90	242	263	321	53	136	179	218	215	230	237	215	205	135
14	204	210	215	284	159	178	217	90	196	28	21	7	256	342			303	260	208	161	93	93	150	165	194
15	154	189	165	178	173	176	176	176	189	181	177	189	185	189	272	201	138	160	183	190	147	173	181	158	178
16	158	144	188	189	139	138	181	197	142	141	212	201	225	171	143	309	304	172	127	231	240	228	220	158	184
17	218	172	219	77	74	113	120	148	156	59	93	99	70	70	116	110	96	129	119	130	199	102	235	228	125
18	300	212	213	211	214	196	204	163	182	61		107	210	200	203	202	192	193	47	105	101	125	162	79	175
19	145	79	184	167	84	142	45	148	101	91	59	18	315	291	286	317	16	168	215	226	186	172	207	191	152
20	183	213	220	157	164	147	116	122	47	46	39	319	261	240	234	198	195	201	83	143	118	121	179	115	160
21	123	252	115	104	194	112	176	152	90	127	105	5	208	209	211	224	208	173	156	153	174	185	216	217	169
22	219	188	188	155	110	116	107	128	130	95	72	175	175	160	90	18	301	281	221	163	227	251	271	283	170
23	279	289	298	300	296	296	292	280	281	282	267	306	307	355	11	354	309	289	281	225	140	236	299	206	289
24	352	126	201	245	152	155	92	117	63	56	25	296	24	360	21	2	306	295	217	218	173	65	81	66	62
25	137	101	159	247	117	101	157	68	100	94	18	343	228	211	216	221	205	196	193	115	70	84	116	125	137
26	131	96	134	130	90	69	68	60	69	168	188	192	202	197	206	201	198	201	198	174	90	85	99	92	140
27	127	40	93	85	129	145	112	84	95	186	204	214	214	230	200	208	212	205	197	192	100	65	116	120	151
28	49	169	116	125	149	56	104	107	191	61	41	212	277	270	265	249	216	206	210	211	101	175	215	178	172
29	185	192	123	196	84	108	108	172	190	75	26	346	322	308	343	5	10	360	229	161	212	212	128	235	158
30	188	226	157	226	201	238	205	224	15	136	72	32	24	12	10	55	6	234	212	211	159	50	63	75	146
31	75	110	81	113	135	190	141	137	73	59	15	357	218	204	215	201	193	170	133	158	116	113	117	157	136
MEAN	163	167	164	165	145	145	149	148	145	121	88	269	239	230	225	218	215	202	183	177	153	163	169	158	

TOTAL NUMBER OF OBSERVATIONS = 8839   MEAN = 171.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	190	185	187	139	189	150	81	212	119	143	191	201	204	213	210	209	216	207	201	199	202	207	200	198	190
2	193	201	201	196	195	199	195	200	198	201	197	198	197	206	202	200	195	193	186	188	177	191	179	171	194
3	179	172	166	165	153	148	159	163	161	152	171	179	185	183	189	176	175	208	215	295	226	221	206	207	183
4	207	206	214	226	216	213	200	202	212	232	278	287	279	275	240	197	214	20	125	301	154	166	201	290	224
5	247	232	181	190	199	185	198	123	224	254	317	349	297	302	293	294	289	281	256	264	275	264	255	217	252
6	158	221	165	184	136	143	210	181	205	112	31	273	219	198	196	204	195	171	105	163	221	234	118	84	177
7	74	119	113	130	152	163	146	122	147	170	199	201	213	214	202	196	194	171	137	109	137	147	141	118	155
8	107	127	132	100	91	149	152	181	263	268	281	293	320	301	305	316	302	314	299	294	294	298	284	273	280
9	284	262		246	217	198	212	151	162	124		89	75	75	59	188	197	190	191	171	117	199	167	87	169
10	102	141	165	115	120	131	181	187	186	187	193	192	191	189	187	192	191	183	179	143	121	133	113	109	161
11	188	144	210	147	68	10	16	186	86	95	19	6	355	241	226	195	193	169	122	110	128	106	133	150	135
12	157	143	106	101	116	84	96	133	192	184	196	204	203	211	207	216	201	245	172	142	77	212	139	139	163
13	149	101	90	123	94	123	117	107	118	85	114	105	240	241	322	52	141	183	218	205	217	243	202	209	148
14	144	216	204	85	138	158	207	139	186	35	7	360	227	345			301	267	218	164	107	142	167	173	172
15	167	192	150	177	172	177	176	177	187	181	178	190	185	186	274	213	143	162	187	187	168	174	186	166	180
16	160	155	188	193	162	139	182	195	151	148	215	204	246	174	146	313	280	181	143	237	247	229	211	149	189
17	203	164	175	116	94	122	150	164	166	76	94	99	76	72	118	113	101	137	128	135	176	96	246	218	132
18	306	214	190	211	222	168	193	163	178	83		104	210	200	205	204	194	195	61	115	108	127	168	91	171
19	155	102	185	173	91	146	358	100	101	94	62	25	268	293	282	310	6	152	178	214	182	147	204	185	150
20	163	208	211	151	158	146	142	143	9	57	43	235	252	217	250	200	199	197	85	142	120	125	172	128	165
21	129	270	82	107	193	97	159	152	110	137	134	6	209	212	212	224	211	185	155	154	171	172	194	205	167
22	213	184	194	157	114	121	116	137	134	99	84	190	184	173	93	13	305	278	209	199	229	251	267	277	178
23	273	284	291	292	289	288	286	277	276	276	262	304	208	335	344	329	329	329	329	329	329	329	329	329	305
24	329	329	329	329	329	329	329	329	329	329	328	297	31	3	29	321	315	306	210	204	171	97	88	76	335
25	145	103	155	180	125	108	158	336	110	105	19	313	228	213	219	222	206	200	195	136	93	95	129	127	149
26	141	124	133	136	108	103	94	83	86	175	191	193	203	200	209	203	200	202	201	175	94	102	109	106	149
27	136	155	128	103	134	118	136	108	102	183	207	213	211	228	201	210	216	209	199	181	117	94	125	140	162
28	65	138	101	142	164	111	117	119	191	69	124	252	281	271	262	253	220	206	202	192	110	169	200	163	170
29	179	160	85	191	87	117	116	162	158	76	20	330	213	254	336	355	6	360	275	120	196	211	125	308	137
30	204	202	172	268	187	253	186	120	332	144	67	42	23	331	24	53	15	260	187	191	131	115	90	117	139
31	100	132	102	118	136	195	157	142	91	66	21	357	216	205	216	202	196	176	133	155	124	115	130	160	144
MEAN	165	174	161	160	148	148	158	154	158	131	112	250	229	229	228	223	217	207	181	178	158	166	170	160	

TOTAL NUMBER OF OBSERVATIONS = 8839 MEAN = 175.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																									
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	N
1	191	187	188	193	191	165	152	250	126	147	195	206	207	214	214	213	213	210	205	203	207	214	204	203	196	39
2	203	206	205	200	200	233	201	204	202	235	202	200	201	210	206	204	198	197	191	192	187	195	183	173	198	93
3	181	174	168	167	162	151	153	165	163	155	173	182	188	186	193	178	178	207	222	294	231	227	213	213	186	31
4	213	213	221	236	228	236	219	213	226	239	279	289	281	278	247	201	217	14	104	309	144	142	197	307	233	21
5	305	249	248	172	213	101	203	145	222	257	309	4	306	310	303	303	299	295	270	282	291	282	280	271	271	51
6	134	238	38	107	124	111	222	168	228	113	50	262	223	203	199	207	196	172	109	190	352	45	139	160	164	33
7	157	164	139	150	154	167	158	141	158	167	199	205	214	215	205	198	200	181	151	118	148	157	145	128	167	48
8	112	128	138	100	82	132	148	168	266	270	284	299	331	308	312	321	310	321	306	301	300	305	295	286	295	38
9	297	284		280	254	220	262	117	125	133		73	111	70	69	190	200	191	192	171	135	171	177	132	170	55
10	130	152	182	144	146	165	189	191	189	190	195	195	194	191	189	193	195	186	189	179	162	181	141	117	175	51
11	177	79	184	186	187	200	21	90	74	115	40	24	3	244	231	199	198	175	143	122	138	112	121	144	142	21
12	153	150	127	140	135	110	135	155	189	188	200	209	207	215	211	219	218	256	178	159	40	236	152	169	176	55
13	178	140	106	146	108	127	149	133	108	97	118	105	246	271	293	56	148	190	234	215	233	272	197	242	165	35
14	83	28	79	19	51	143	156	125	159	35	22	14	255	352			308	287	235	178	144	196	183	192	120	94
15	185	190	175	178	172	178	178	183	187	182	181	193	189	170	277	203	151	168	192	194	193	176	208	185	186	78
16	167	155	188	194	174	154	195	207	181	154	218	206	215	177	147	327	269	190	187	266	276	267	240	148	200	84
17	197	196	203	188	159	137	187	183	184	126	106	103	84	78	121	114	104	137	131	118	144	50	360	138	137	25
18	289	188	153	273	271	123	184	167	168	126		43	215	203	209	210	201	200	105	125	117	130	186	133	174	75
19	174	160	196	185	117	151	354	71	91	95	72	15	321	296	294	331	17	92	153	196	352	15	63	120	84	52
20	112	86	215	169	163	140	169	180	177	103	47	82	255	228	246	204	203	198	86	138	117	114	160	141	156	50
21	163	64	67	116	217	136	117	142	121	149	57	16	210	216	215	226	213	188	154	148	178	158	190	211	161	69
22	210	202	196	161	119	127	128	142	136	107	117	192	185	179	100	23	329	300	237	211	235	247	258	283	183	70
23	287	293	302	305	302	299	295	290	284	283	272	313	312	347	354	321	325	320	335	335	335	335	334	2	314	89
24	3	50	90	90	90	89	90	90	113	104	44	309	31	7	359	334	323	330	256	201	197	177	133	105	65	62
25	109	109	121	165	186	108	158	146	125	122	33	258	233	218	222	224	210	207	197	167	145	102	130	129	160	37
26	167	162	139	158	130	174	150	140	124	179	105	196	207	206	213	207	204	207	208	181	114	137	115	120	168	40
27	149	201	171	124	141	160	182	131	123	190	213	219	216	232	207	215	219	213	201	193	160	157	139	164	180	51
28	148	186	198	132	189	193	135	144	187	98	132	276	295	275	267	257	225	210	202	200	129	133	212	165	190	72
29	162	185	100	182	130	125	119	152	185	85	33	342	88	7	353	2	360	14	355	80	155	239	239	23	88	58
30	352	215	232	320	220	360	177	85	306	159	82	46	16	351	8	28	12	2	171	178	182	196	184	174	106	46
31	153	149	141	122	131	175	234	131	123	104	27	27	224	210	219	206	199	185	136	154	136	121	147	161	155	36
MEAN	159	172	160	164	163	151	170	154	164	144	109	263	231	235	233	227	222	211	186	184	168	177	180	164		

TOTAL NUMBER OF OBSERVATIONS = 8838 MEAN = 178.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	198	194	194	201	198	189	186	232	137	166	199	209	211	218	218	217	217	214	209	207	213	218	209	210	203
2	209	211	210	206	205	208	206	209	207	209	207	204	205	214	210	208	202	203	197	200	200	200	188	178	204
3	184	178	172	173	167	158	169	171	166	160	177	185	192	190	197	183	183	218	230	293	233	228	216	216	191
4	217	216	223	235	237	254	241	221	231	243	281	292	284	280	254	209	220	16	94	313	343	132	126	300	247
5	352	337	11	171	256	120	212	152	215	259	281	5	297	309	303	306	304	299	278	286	297	293	310	323	293
6	209	249	73	100	123	121	201	38	10	131	82	179	228	210	208	210	198	181	115	202	360	96	176	197	163
7	205	188	160	166	169	176	171	161	171	174	206	210	216	217	209	203	207	192	171	140	168	171	151	139	181
8	123	139	149	111	176	117	131	154	271	274	289	292	329	312	315	322	314	322	308	304	304	311	307	295	291
9	309	297		296	290	242	304	115	133	142		87	116	62	78	200	204	196	197	192	160	192	194	176	185
10	164	169	196	175	175	192	196	197	195	196	201	200	198	197	193	197	203	196	199	201	193	204	179	181	191
11	196	192	201	203	205	199	170	45	229	109	42	40	320	244	228	201	202	185	165	146	158	128	130	126	176
12	140	158	154	174	166	137	161	182	193	194	204	214	211	219	215	221	217	252	196	193	248	253	171	207	195
13	198	186	202	185	123	143	194	187	183	121	124	117	245	242	301	52	156	206	250	235	249	353	121	287	190
14	310	315	72	223	27	135	143	155	161	262	55	7	260	353			311	296	242	192	189	205	206	204	229
15	200	199	190	187	178	185	189	194	195	187	185	198	195	202	278	227	125	185	208	216	219	193	222	206	198
16	186	184	195	204	195	206	224	227	217	172	222	211	254	184	153	333	272	208	241	282	297	290	273	227	224
17	203	221	211	203	194	170	203	190	197	171	122	110	89	80	122	120	104	132	124	91	57	48	9	40	138
18	267	105	125	27	269	159	191	188	183	152		51	220	209	214	212	201	203	174	141	135	145	204	181	179
19	189	190	208	200	147	151	278	48	114	51	67	14	334	302	298	314	11	72	127	104	267	281	204	150	161
20	91	121	193	190	195	166	196	199	195	203	49	313	264	248	254	206	205	206	91	145	112	84	148	158	178
21	222	305	73	129	234	223	114	136	134	160	112	339	212	221	218	227	215	196	164	157	194	174	202	221	187
22	215	213	204	167	129	135	143	151	142	120	157	199	192	187	109	32	66	136	218	238	248	270	287	310	178
23	296	296	310	311	309	301	300	291	288	284	276	315	311	336	19	357	321	325	358	301	1	337	311	347	317
24	1	89	151	289	155	194	147	185	208	175	239	298	16	25	312	337	313	331	298	208	203	213	193	190	230
25	135	117	50	188	211	119	156	156	139	163	49	306	232	223	227	227	214	215	207	200	200	115	135	152	175
26	203	187	151	179	174	199	192	196	176	191	200	201	210	210	216	210	206	211	213	191	150	182	136	163	190
27	168	210	199	167	148	175	198	193	188	200	214	225	224	235	212	220	222	215	206	206	189	204	191	193	200
28	194	211	206	198	204	200	162	170	202	142	124	304	290	275	274	264	229	217	222	222	167	155	236	234	216
29	152	107	199	193	195	147	119	146	212	109	37	352	328	329	331	3	5	13	358	63	129	247	262	245	187
30	321	301	238	270	235	320	220	123	338	178	84	40	12	355	23	32	13	19	162	175	208	206	205	203	281
31	204	196	172	167	149	187	208	156	152	145	44	62	232	214	223	209	200	192	157	163	153	138	163	170	174
MEAN	201	199	180	191	189	175	187	173	187	174	158	265	245	240	237	232	221	213	197	199	203	199	196	203	

TOTAL NUMBER OF OBSERVATIONS = 8837 MEAN = 199.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 8 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	12	12	11	14	15	23	27	29	16	37	16	16	16	15	15	15	16	15	15	14	14	14	14	14	17
2	14	15	14	13	12	14	12	15	13	14	14	15	16	16	16	13	13	14	13	16	27	13	12	14	15
3	13	13	13	14	21	20	14	16	15	16	14	14	16	13	16	13	19	31	17	15	18	14	13	14	16
4	13	13	14	14	14	14	14	13	14	17	17	15	18	18	16	13	16	21	17	18	14	14	25	21	16
5	24	15	17	11	11	31	15	15	33	16	29	21	27	16	15	13	13	13	12	11	12	10	11	16	17
6	14	11	15	12	13	21	11	14	11	17	23	33	22	29	24	16	13	21	11	15	13	15	21	30	18
7	14	20	11	12	11	11	14	14	17	19	23	15	14	14	13	14	15	14	18	15	14	13	15	17	15
8	15	13	15	20	16	11	15	11	21	14	14	28	15	13	14	25	13	13	14	14	13	12	11	11	15
9	11	11		11	10	11	11	13	16	24		48	51	32	25	32	13	12	13	17	17	29	25	23	21
10	21	13	21	21	24	21	15	14	13	13	12	13	13	13	12	13	14	21	15	19	22	23	18	11	17
11	22	27	24	25	22	44	22	11	20	15	26	22	45	29	21	16	13	10	10	9	10	10	9	11	19
12	19	15	16	21	21	20	30	29	18	21	16	16	17	13	13	14	30	20	17	20	30	14	12	21	20
13	31	16	9	15	13	10	23	12	14	14	22	28	23	25	43	22	13	11	11	10	18	15	11	16	18
14	19	14	21	30	13	12	11	13	25	25	26	35	38	19			12	14	14	12	22	26	22	14	20
15	17	15	19	12	10	11	11	12	12	12	13	13	15	44	19	27	15	14	12	14	15	14	11	11	16
16	11	11	11	19	21	19	15	17	17	11	15	17	24	15	20	16	32	13	11	11	11	9	10	14	16
17	13	25	24	17	13	11	19	19	14	16	17	20	28	22	18	16	13	12	12	15	22	30	12	12	18
18	22	10	14	11	10	23	18	18	16	14		38	17	18	15	14	13	12	26	13	12	10	14	14	16
19	16	14	12	24	11	12	24	44	13	14	20	34	50	20	17	27	15	11	12	15	18	16	19	11	19
20	20	16	11	14	15	15	16	26	42	31	34	46	44	68	48	14	12	16	12	11	11	10	15	12	22
21	27	18	17	16	13	13	18	17	12	14	36	21	19	17	16	15	13	12	11	14	15	13	14	13	17
22	12	13	11	14	13	12	13	12	14	15	27	20	16	17	16	20	31	14	15	13	11	12	12	12	16
23	12	12	13	12	14	13	12	13	14	14	16	14	17	26	47	48	13	13	17	11	20	11	24	18	17
24	18	13	11	21	17	20	12	17	24	14	23	25	37	48		53	17	13	11	11	21	21	22	15	21
25	13	11	11	18	22	10	13	23	14	24	40	60	20	15	16	15	14	13	12	28	14	10	11	12	18
26	19	20	10	12	12	14	12	11	20	27	15	14	14	15	15	14	12	14	13	16	27	25	14	23	17
27	16	42	21	11	11	11	12	24	13	17	27	24	30	27	18	16	15	13	14	24	35	34	16	21	21
28	47	50	24	27	22	35	16	15	27	22	49	49	26	21	21	21	13	12	13	16	30	15	10	27	25
29	13	33	32	16	25	13	11	11	28	17	21	29	32		45	43	32	21	16	22	12	12	19	15	22
30	15	17	14	19	17	20	17	24	33	24	38	36	41		35	52	20	14	11	14	27	25	15	17	24
31	17	19	22	12	13	14	21	16	11	16	18	57	28	17	17	15	12	12	12	13	12	13	16	11	17
MEAN	18	18	16	17	16	17	16	18	19	19	23	26	25	22	21	21	16	15	14	15	18	17	16	16	

TOTAL NUMBER OF OBSERVAITONS = 8553 MEAN = 18.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 30 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	10	9	12	12	19	26	23	13	32	12	13	12	14	12	12	13	12	12	12	12	11	11	11	14
2	11	12	12	10	10	11	11	11	10	11	11	13	13	13	12	11	11	11	11	12	23	10	9	11	12
3	11	9	10	11	18	17	11	12	11	13	10	12	14	11	14	11	17	23	15	13	15	11	11	11	13
4	11	9	11	11	11	11	10	9	11	13	13	11	15	14	13	10	14	19	13	10	12	11	22	25	13
5	13	14	17	9	9	18	12	18	25	12	22	30	13	12	13	10	11	10	9	10	8	10	9	13	14
6	10	10	10	17	10	14	9	16	8	15	12	35	18	24	20	11	10	14	8	11	16	23	20	31	16
7	13	29	9	11	8	8	12	11	14	18	18	12	12	11	11	11	14	12	13	11	11	9	12	14	13
8	13	11	10	14	18	8	10	9	10	10	10	18	24	12	11	11	10	10	11	10	9	10	8	8	12
9	10	10		9	8	9	10	9	21	18		49	49	34	23	33	10	10	10	28	14	30	24	23	20
10	18	14	18	21	24	21	13	11	11	11	10	11	11	10	11	10	11	19	12	19	23	23	16	9	15
11	23	29	26	34	40	44	15	11	18	11	21	25	55	31	16	13	11	8	8	8	8	8	8	8	20
12	12	11	15	22	19	17	30	25	18	18	15	13	14	12	12	11	27	20	15	20	28	13	10	19	18
13	33	20	9	13	13	9	19	14	23	12	19	18	19	35	29	19	10	8	8	8	20	11	10	19	17
14	18	19	25	32	15	10	10	24	16	22	45	27	29	28			11	12	12	12	21	26	21	14	20
15	12	12	20	8	9	6	8	9	10	10	10	10	13	42	17	20	11	13	10	10	11	10	9	8	13
16	8	10	9	11	24	18	13	15	15	9	12	13	21	10	18	22	32	10	12	10	8	9	8	9	14
17	11	18	22	31	20	9	20	15	20	18	13	17	27	19	14	13	10	9	10	11	16	29	13	10	17
18	18	6	13	9	15	16	17	11	17	12		34	16	14	13	12	10	10	23	11	10	9	20	14	15
19	11	25	11	20	9	11	17	42	11	12	17	30	30	17	15	28	9	12	9	9	16	19	13	12	17
20	10	16	8	12	11	10	17	22	45	24	22	41	36	50	40	10	10	18	9	8	8	8	11	10	19
21	25	33	15	12	11	14	15	13	10	11	31	17	16	13	12	12	10	10	8	9	11	10	9	10	14
22	9	10	9	10	10	9	9	9	11	11	24	18	13	13	14	11	15	12	10	9	9	10	10	10	12
23	9	9	11	10	10	9	10	9	10	10	11	11	22	21	25	8	9	8	9	9	8	9	10	8	11
24	9	8	9	9	9	9	9	10	10	6	13	24	54	35	27	30	15	12	9	9	15	27	18	13	15
25	8	9	8	15	25	9	9	19	11	23	20	29	17	12	13	12	10	10	9	25	15	8	9	10	14
26	13	17	8	8	9	21	15	11	10	22	12	12	12	12	12	11	11	11	10	14	18	24	11	20	14
27	13	47	23	11	9	9	16	22	11	15	20	22	26	22	15	13	12	11	12	24	33	39	15	18	19
28	35	41	25	51	10	32	15	13	14	20	49	30	14	16	17	16	11	10	10	15	24	11	16	16	21
29	10	24	34	9	19	10	9	9	18	13	21	35	26		47	23	41	20	13	19	11	11	16	18	20
30	13	19	12	19	12	13	13	17	29	27	35	26	39	50	22	47	33	10	10	11	26	40	25	30	24
31	20	10	24	9	10	13	18	10	10	15	12	59	27	14	14	12	11	8	10	9	9	9	14	8	15
MEAN	15	17	15	15	15	14	14	15	16	16	18	23	22	20	18	16	14	13	11	13	16	16	14	14	

TOTAL NUMBER OF OBSERVATIONS = 8613 MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 100 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	6	8	8	10	10	19	30	20	11	30	13	12	13	11	11	11	12	11	11	11	11	10	11	9	13
2	10	12	11	10	9	10	10	10	10	11	11	12	12	12	11	11	11	12	10	13	22	10	10	10	12
3	10	10	10	11	16	15	10	12	12	11	9	11	12	11	13	9	17	22	17	13	14	11	10	10	13
4	8	9	9	10	12	12	10	7	8	15	14	11	15	14	13	11	13	15	12	11	20	9	16	11	12
5	13	27	13	9	10	14	12	11	17	12	26	22	13	11	10	10	10	8	9	9	9	9	10	15	13
6	14	16	15	8	8	12	12	22	20	13	11	38	17	20	18	11	9	15	8	15	16	18	22	40	17
7	40	27	9	11	8	8	11	12	12	14	17	12	11	9	10	10	13	11	12	12	14	10	10	12	14
8	10	9	10	20	14	8	7	9	10	9	9	20	32	10	11	10	10	10	10	11	9	9	9	9	12
9	9	7		9	10	11	10	8	14	12		26	49	26	21	22	10	9	10	26	15	34	20	29	18
10	20	11	18	22	25	21	12	11	10	10	10	9	10	10	10	9	11	18	11	15	26	25	27	18	16
11	25	49	31	24	29	28	18	19	19	10	17	18	33	35	13	13	11	7	8	7	8	7	8	7	18
12	12	11	17	22	18	19	26	19	15	17	15	13	13	11	11	10	17	26	15	23	36	24	10	24	18
13	27	26	15	17	14	7	28	23	23	12	18	27	18	34	31	20	10	9	8	8	20	15	14	18	19
14	23	18	15	11	18	9	13	18	10	14	27	28	29	20			11	12	14	18	32	18	15	14	18
15	13	9	17	6	8	7	7	8	9	10	10	10	13	41	17	17	13	10	8	9	10	8	9	9	12
16	10	9	8	9	31	20	12	9	18	8	11	13	21	13	19	19	27	10	17	11	9	9	9	11	14
17	12	12	11	22	21	12	15	10	11	24	13	16	21	15	13	11	9	9	9	12	19	30	27	20	16
18	14	23	15	32	13	19	19	20	15	9		24	14	12	12	11	10	10	51	15	14	8	21	25	18
19	11	24	16	15	18	9	29	27	10	11	15	30	20	16	13	18	7	9	8	25	19	9	16	10	16
20	10	25	11	9	16	13	19	22	40	41	25	28	38	50	29	9	10	16	9	8	8	7	11	8	19
21	14	26	9	10	13	21	12	11	13	10	39	31	14	12	11	11	11	9	9	9	7	7	8	9	14
22	9	9	8	11	9	9	7	8	10	11	27	17	14	13	12	8	17	11	8	6	9	8	8	9	11
23	5	9	9	9	9	9	9	6	9	10	11	10	20	11	47	37	8	7	8	9	9	9	8	7	12
24	10	6	6	7	7	7	6	7	15	20	24	23	29	36	16	34	12	8	11	8	11	50	33	32	17
25	9	8	10	13	33	10	10	12	9	21	15	45	15	10	12	12	10	9	8	29	23	8	10	9	15
26	24	12	8	10	13	29	25	39	29	21	12	11	11	11	11	10	9	9	9	14	23	31	12	31	18
27	14	38	17	13	9	8	16	37	17	15	19	20	23	21	13	12	12	9	10	16	26	46	26	21	19
28	49	31	35	31	15	31	21	10	13	26	45	32	13	13	15	15	9	8	9	18	20	13	15	29	22
29	10	15	23	10	27	10	8	7	28	12	17	26		37	44	12	19	17	15	12	13	10	15	24	17
30	13	15	17	23	12	20	16	13	19	21	37	17	35		20	26	16	28	8	9	24	36	41	22	21
31	34	19	28	11	9	16	22	15	9	16	18	50	31	12	12	11	10	9	10	9	9	8	13	8	16
MEAN	16	17	15	15	15	15	15	15	15	16	18	21	20	18	16	14	12	12	12	14	17	17	16	17	

TOTAL NUMBER OF OBSERVATIONS = 8601 MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	8	8	8	8	23	30	24	15	28	12	11	11	12	9	11	10	9	10	11	9	9	10	8	13
2	10	10	10	8	8	9	10	10	7	10	10	11	11	12	10	9	10	11	10	12	21	10	9	10	11
3	10	10	10	11	16	16	11	11	10	11	11	11	13	10	12	10	16	20	16	12	13	10	9	9	12
4	9	8	9	9	11	11	11	8	8	12	13	11	13	12	14	11	11	10	9	16	26	10	27	17	13
5	14	19	10	10	12	24	12	12	20	12	20	25	15	10	10	11	10	9	8	8	8	9	8	10	13
6	12	14	7	7	8	13	10	11	9	10	15	43	15	18	16	10	8	18	12	10	9	20	28	20	15
7	30	16	9	10	10	8	10	13	10	13	18	11	8	10	10	9	14	11	13	16	16	10	9	9	13
8	8	9	16	25	43	9	8	9	10	9	9	14	12	10	11	12	9	10	9	10	9	10	9	9	12
9	8	8		10	11	12	11	8	17	11		39	57	26	21	26	9	8	8	16	19	34	20	25	19
10	20	11	13	21	24	15	11	10	9	10	10	10	10	9	11	9	11	15	10	11	18	17	29	23	14
11	15	48	18	13	11	14	27	22	17	13	28	29	32	25	13	14	10	8	7	9	10	8	12	15	17
12	25	12	19	17	19	21	21	17	14	18	13	12	14	11	10	11	15	21	17	23	34	13	12	22	17
13	38	19	31	18	29	11	20	15	27	17	16	26	15	32	13	16	11	11	9	9	25	15	15	19	19
14	15	13	19	10	18	8	8	8	8	16	39	35	25	25			10	11	15	14	23	9	8	10	16
15	9	9	11	8	7	7	7	7	9	10	9	10	12	35	17	20	35	17	9	9	12	11	8	11	13
16	12	14	7	8	19	16	9	9	12	10	10	13	37	14	19	16	17	11	12	11	9	9	10	10	13
17	11	9	7	11	11	15	10	8	9	17	11	16	17	14	14	11	9	8	7	15	15	31	22	9	13
18	25	10	9	19	12	20	10	15	11	10		22	13	12	11	10	10	8	50	31	27	12	14	21	17
19	13	17	8	19	23	9	26	48	21	12	14	21	50	16	13	20	8	6	8	14	16	23	15	11	18
20	15	8	10	9	13	19	15	14	16	21	26	46	32	47	29	8	9	10	20	8	12	10	10	10	17
21	9	11	8	9	11	16	15	9	20	9	35	49	13	12	10	10	10	9	7	7	9	8	10	10	13
22	9	10	8	10	8	8	8	8	8	10	26	15	15	13	14	8	22	12	10	9	9	9	10	10	12
23	8	9	9	9	11	9	8	9	10	10	11	9	22	26	71		10	11	9	11	10	16	9	24	14
24	27	9	7	13	12	12	21	10	10	12	29	14	28	39	19	33	13	9	15	7	8	15	27	43	18
25	24	22	12	15	14	17	9	23	18	20	22	38	13	11	11	10	9	8	7	15	16	29	17	18	17
26	15	10	10	13	18	14	21	26	26	23	10	10	10	10	9	10	8	9	9	13	32	33	26	39	17
27	15	10	13	19	12	11	12	28	14	11	16	18	23	18	11	11	9	8	9	11	23	39	25	18	16
28	24	10	12	16	10	18	19	9	9	18	41	35	13	14	14	17	10	8	9	9	26	13	9	11	16
29	12	10	16	10	10	13	10	8	11	22	30	43	40	37	46	21	12	22	8	14	11	12	10	12	19
30	18	15	11	10	10	13	13	14	20	16	34	18	29	47	38	25	22	8	10	8	12	16	17	13	18
31	18	20	25	23	16	13	24	21	17	14	22	52	30	11	11	8	10	10	16	10	10	9	12	7	17
MEAN	16	14	13	13	15	14	15	14	14	15	19	22	21	18	17	14	12	12	12	13	16	16	15	16	

TOTAL NUMBER OF OBSERVATIONS = 8579 MEAN = 15.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN CORPORATION

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 30 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	9	10	13	13	20	30	25	12	34	13	13	14	13	13	12	12	12	12	11	12	12	12	11	15
2	11	12	13	11	10	11	11	11	10	11	13	12	14	14	13	11	11	13	11	14	24	11	9	11	13
3	12	11	11	12	19	17	12	12	11	13	11	12	15	11	14	11	18	24	21	16	16	12	11	11	14
4	11	9	11	11	12	11	10	10	11	15	19	12	22	13	13	11	15	11	14	10	17	10	15	20	13
5	11	13	16	9	9	7	12	16	22	12	13	19	51	14	12	11	10	10	10	10	9	11	9	12	14
6	12	11	10	19	10	13	10	12	9	16	12	20	18	24	20	11	11	15	8	11	19	15	20	30	15
7	23	31	9	11	9	9	13	13	14	23	19	13	12	10	11	10	14	12	13	12	12	9	12	14	14
8	12	11	11	21	17	8	10	10	10	10	9	15	48	14	11	52	10	52	11	12	10	10	10	8	16
9	8	8		8	8	10	9	10	13	15		28	45	32	21	24	11	10	10	17	14	21	25	25	17
10	19	11	18	20	26	22	13	12	11	11	11	12	11	11	11	9	13	21	13	21	24	26	17	9	16
11	17	29	25	32	35	29	15	12	14	13	11	12	35	31	18	15	11	8	7	8	9	8	8	7	17
12	13	10	15	24	19	17	31	25	12	19	17	14	15	12	12	11	28	19	14	21	33	15	10	21	18
13	31	18	10	13	13	6	20	18	15	12	20	25	20	25	20	15	10	10	8	9	21	11	9	13	16
14	13	15	11	12	21	10	10	17	12	15	31	25	31	19			20	12	14	13	21	21	23	15	18
15	13	13	20	10	8	10	8	9	10	11	11	10	14	48	18	21	12	13	12	12	11	10	9	8	14
16	10	10	10	12	34	18	13	16	16	8	12	14	39	13	21	20	24	11	13	12	9	7	8	10	15
17	11	18	25	28	15	9	20	15	21	16	14	17	24	19	15	14	11	9	10	11	14	24	14	9	16
18	22	8	16	10	14	15	15	14	18	13		27	17	14	14	12	11	11	28	11	10	10	21	15	16
19	12	23	11	22	11	8	26	43	13	13	17	32	28	16	14	25	9	13	10	11	17	18	17	10	18
20	9	11	7	13	12	12	18	24	44	24	24	40	34	62	38	11	10	18	9	8	8	9	11	10	19
21	16	16	9	13	12	16	20	12	9	11	21	13	17	13	13	12	11	10	8	10	11	9	10	9	13
22	11	10	8	11	10	9	9	10	10	13	23	20	14	14	15	8	23	10	10	9	9	10	11	10	12
23	9	10	9	10	9	9	9	10	11	11	13	27	19		17	16	27	10	19	10	15	11	9	14	13
24	11	7	9	16	16	15	9	11	19	12	16	25	28	24	45	32	23	19	12	9	16	22	17	13	17
25	9	9	8	14	27	8	9	26	11	26	13	43	17	12	14	12	10	9	10	26	16	10	9	10	15
26	15	19	8	9	10	22	17	12	20	23	12	12	13	13	12	10	11	11	11	15	18	28	11	22	15
27	15	49	19	10	9	8	17	23	11	15	21	23	28	24	15	13	12	11	11	26	41	43	17	23	20
28	30	43	21	32	20	31	17	15	19	20	26	31	24	18	18	16	12	10	11	18	27	10	17	16	21
29	10	25	14	10	20	9	10	9	15	14	16	28	28	26	15	11	11	8	12	15	17	11	15	9	15
30	13	19	14	12	14	12	16	18	18	23	27	21	24	36	23	35	9	13	10	11	26	45	26	32	21
31	23	17	28	10	9	12	20	12	11	16	18	52	30	14	15	12	11	10	12	8	10	11	15	8	16
MEAN	15	16	14	15	16	14	15	16	15	16	17	21	24	20	17	16	14	13	12	13	17	16	14	15	

TOTAL NUMBER OF OBSERVATIONS = 8592 MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN CORPORATION

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 100 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	10	8	9	11	9	18	34	24	11	29	14	12	12	12	11	11	10	11	10	11	11	11	11	10	14
2	10	11	11	10	10	10	10	9	9	11	11	10	12	12	11	11	11	11	10	12	21	10	10	10	11
3	11	10	9	11	19	15	11	11	11	12	10	12	13	11	12	10	17	21	15	12	13	12	9	9	13
4	8	8	9	10	12	12	10	8	9	13	13	11	14	13	13	11	13	10	11	9	12	9	13	9	11
5	12	27	10	8	10	14	12	11	13	12	31	33	12	10	11	11	9	10	9	10	9	10	9	16	13
6	10	11	15	8	8	14	12	11	17	13	11	39	16	20	18	10	9	22	8	16	19	14	23	39	16
7	41	27	9	11	9	8	12	12	13	15	17	12	10	10	10	8	14	10	12	11	13	10	10	12	13
8	9	9	9	18	12	8	7	8	9	9	8	13	12	12	9	11	10	9	10	11	10	9	9	8	10
9	9	9		10	9	11	11	12	16	13		30	38	27	21	21	10	11	11	22	14	34	20	26	18
10	21	10	18	22	26	20	11	10	10	10	11	11	10	10	10	10	11	18	11	15	24	22	28	16	16
11	23	25	32	22	28	28	29	14	17	9	15	34	40	19	13	12	10	8	7	7	8	6	7	8	17
12	12	12	15	21	19	19	27	22	19	17	14	12	13	11	10	9	15	26	16	23	36	20	10	25	18
13	23	24	15	16	15	9	26	19	16	11	17	25	17	24	13	25	10	9	10	7	23	19	13	17	17
14	9	9	18	10	13	8	12	9	9	23	26	47	35	29			9	12	13	15	31	17	17	12	17
15	12	10	17	8	7	7	7	9	10	10	10	10	13	40	15	17	15	10	9	9	9	7	9	9	12
16	9	11	8	9	33	20	11	9	20	9	10	13	23	11	18	16	17	10	16	11	10	10	9	10	14
17	12	10	13	21	19	12	14	10	11	23	12	20	25	15	13	11	8	9	9	12	22	28	17	14	15
18	14	12	12	22	15	16	23	18	13	10		23	13	12	12	11	9	10	60	14	14	8	21	26	17
19	10	21	11	15	18	9	29	36	8	11	15	18	19	15	13	14	24	9	7	20	13	9	7	7	15
20	11	11	10	10	14	11	17	21	35	42	23	38	32	50	27	10	8	16	11	7	8	7	10	9	18
21	13	10	8	11	13	21	13	10	12	10	28	43	15	12	10	12	10	9	8	7	7	7	8	9	13
22	9	9	6	10	10	6	7	9	10	11	20	16	14	13	12	16	12	10	13	9	10	9	9	10	11
23	8	8	9	10	10	9	14	9	10	10	12	9	17	22	10	11	10	10	14	12	10	10	8	17	11
24	20	11	8	13	15	13	14	11	17	20	26	20	23	32	23	23	11	9	11	8	11	51	32	31	19
25	8	8	9	12	27	14	9	11	9	21	29	39	14	11	12	10	9	8	8	28	21	8	10	9	15
26	21	12	8	11	13	26	24	35	32	20	10	11	10	11	10	10	10	10	9	13	23	31	12	27	17
27	14	37	17	13	8	9	15	32	16	14	23	19	23	21	13	11	11	8	10	16	27	37	22	20	18
28	43	24	30	26	14	28	19	10	13	27	35	30	14	14	15	15	10	8	9	12	17	10	15	40	20
29	9	14	25	10	28	10	7	8	26	12	25	29		17	16	29	19	13	21	12	12	11	22	13	17
30	11	15	14	11	11	18	15	15	14	18	26	17	29	25	33	27	20	16	7	9	23	32	39	20	19
31	30	15	29	11	8	16	18	14	8	15	32	40	26	11	12	10	9	8	13	9	9	8	13	8	16
MEAN	16	15	14	14	15	15	16	15	15	16	18	22	19	18	15	14	12	12	13	13	16	16	15	16	

TOTAL NUMBER OF OBSERVATIONS = 8630 MEAN = 15.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	8	7	9	10	14	26	19	12	23	12	10	10	11	10	10	9	9	9	9	10	10	10	9	12
2	9	9	10	7	8	9	9	9	8	9	10	10	10	10	10	10	10	9	9	12	19	9	8	10	10
3	9	9	8	10	15	14	10	10	11	11	9	9	11	6	10	10	14	18	13	11	12	10	9	8	11
4	9	7	8	9	11	9	10	8	7	11	11	9	12	12	14	10	10	20	10	10	11	12	17	18	11
5	10	24	13	8	12	13	10	11	16	10	17	34	14	10	11	10	10	8	8	8	8	9	9	8	12
6	9	11	13	7	7	14	9	22	11	14	14	36	14	18	16	10	8	13	12	10	9	17	25	17	14
7	27	15	9	9	10	9	10	12	9	12	18	21	10	9	9	9	13	9	12	15	15	9	8	10	12
8	7	9	13	19	35	9	7	8	11	8	9	15	10	10	10	10	10	9	9	8	9	8	10	8	11
9	6	7		10	11	12	13	7	14	11		38	52	22	21	26	8	8	9	15	16	24	20	22	17
10	18	11	13	16	21	13	11	9	9	9	9	10	9	9	9	8	10	13	9	9	16	15	29	20	13
11	13	45	14	13	10	21	35	20	22	13	29	36	32	24	12	12	9	8	9	9	9	9	11	13	18
12	24	11	17	15	16	21	18	16	13	16	12	11	11	10	10	7	14	20	16	21	36	13	12	19	16
13	25	15	20	15	24	10	17	11	20	14	15	27	15	23	15	16	10	10	8	8	23	11	14	18	17
14	14	13	12	14	11	8	8	7	8	10	43	29	29	31			11	11	13	12	17	9	8	9	15
15	9	7	9	7	8	8	8	8	9	8	9	9	11	32	16	17	31	15	8	9	11	10	8	8	12
16	10	12	8	8	16	13	8	8	10	10	9	12	24	13	15	16	16	10	12	10	10	8	9	9	12
17	6	9	8	11	10	13	11	8	12	20	10	15	16	13	13	10	7	12	7	14	22	30	20	10	13
18	12	8	10	20	13	19	14	14	10	10		22	11	11	11	9	9	7	43	26	27	11	12	17	16
19	11	13	8	19	20	6	28	62	18	16	14	19	15	15	13	16	16	6	8	8	12	13	12	9	16
20	7	8	9	8	12	14	13	12	17	17	33	40	29	35	30	8	8	9	18	9	11	10	9	8	16
21	11	15	8	8	11	15	13	8	17	9	36	42	13	10	10	9	10	9	8	7	7	7	9	8	13
22	6	9	9	9	7	8	6	8	8	10	22	14	13	11	12	8	10	10	10	8	9	9	9	10	10
23	12	8	9	9	11	9	9	8	10	9	11	16	20	14	11	11	11	10	11	11	21	17	9	22	12
24	18	15	7	13	12	11	17	10	11	12	26	17	24	24	20	20	12	9	12	8	8	13	23	32	16
25	22	16	20	12	12	21	8	19	13	16	25	40	11	11	11	11	9	8	7	13	13	25	14	16	16
26	13	8	9	11	16	13	17	22	22	19	8	10	9	9	9	9	9	12	9	12	27	28	21	36	15
27	15	9	11	17	11	9	11	23	12	10	13	17	20	17	12	11	9	8	9	11	16	33	20	14	15
28	19	10	11	13	10	15	15	8	8	17	40	37	12	14	13	15	8	8	9	9	19	20	9	9	15
29	10	11	11	9	16	12	10	8	10	18	30	35	20	29	13	32	11	8	8	15	10	10	10	12	15
30	15	12	10	9	8	14	20	14	25	14	30	21	39	18	33	51	16	8	8	13	10	14	12	11	17
31	15	17	24	19	13	12	22	25	14	12	32	48	24	11	10	8	9	8	12	9	8	9	11	7	16
MEAN	13	13	12	12	13	13	14	14	13	13	19	22	18	16	14	14	11	11	12	12	15	14	14	14	

TOTAL NUMBER OF OBSERVATIONS = 8650   MEAN = 14.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	75	75	77	77	76	77	76	76	76	73	68	66	65	66	67	66	67	69	70	72	73	74	76	78	73
2	79	77	76	75	78	76	75	74	73	71	69	68	66	64	62	63	65	68	68	68	67	68	70	71	71
3	72	73	75	76	76	75	77	76	75	75	74	73	71	73	72	72	73	75	81	90	90	85	83	83	77
4	83	84	85	85	87	85	83	84	86	83	75	69	64	61	61	66	75	91	94	95	95	94	94	94	83
5	95	95	95	95	95	95	95	95	94	94	94	94	94	94	93	94	96	96	96	96	96	96	97	96	96
6	95	95	95	95	95	95	95	94	94	95	93	86	79	75	74	74	77	81	86	87	87	87	84	82	88
7	85	86	86	86	87	88	89	89	87	82	77	73	71	69	69	70	70	73	76	78	78	79	79	79	80
8	81	81	80	82	83	82	82	84	85	85	85	83	83	85	86	89	90	91	92	91	91	92	92	92	87
9	92	92		92	91	91	90	90	90	90		78	70	64	61	61	67	71	73	73	73	72	70	70	79
10	71	71	70	70	69	68	66	65	64	61	57	57	56	55	55	55	56	57	56	57	57	57	58	60	61
11	61	61	63	64	66	67	67	68	67	63	58	54	51	49	46	47	48	51	53	55	56	57	56	55	58
12	54	54	57	57	56	57	55	55	52	49	45	44	43	42	44	45	47	48	50	51	52	54	55	56	51
13	57	59	61	60	61	62	62	64	65	64	60	57	57	57	61	68	70	71	72	74	75	78	81	83	66
14	84	84	85	87	86	88	89	90	88	85	77	70	65	64			66	68	69	70	72	73	73	75	78
15	75	76	78	78	79	78	79	78	75	69	67	65	64	61	57	59	63	66	68	68	69	69	69	70	71
16	70	70	71	71	73	75	75	75	75	73	68	67	66	72	75	87	94	96	95	94	92	93	94	89	80
17	90	88	88	87	88	86	84	84	82	81	77	68	62	61	61	60	61	65	67	67	69	72	74	77	76
18	79	81	82	84	85	85	88	88	87	83		66	61	60	59	59	61	66	70	71	72	72	71	73	75
19	72	72	72	73	76	77	79	79	77	72	66	65	63	62	60	60	62	64	69	73	72	73	75	77	71
20	77	77	79	78	76	76	78	78	77	73	67	62	58	56	55	56	59	65	69	72	71	72	70	68	70
21	68	68	70	69	70	68	67	65	64	63	58	56	51	49	50	51	53	54	56	57	57	58	61	63	61
22	64	64	66	77	92	96	96	93	95	96	95	92	90	87	89	94	98	98	99	99	99	99	99	99	91
23	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98	99	99	99	99	99	99	99	99	100
24	99	99	99	99	99	99	99	99	99	99	96	82	70	66	68	68	67	67	78	87	91	92	91	92	88
25	92	91	91	92	91	94	94	93	93	90	85	75	59	60	61	58	60	66	70	71	73	75	75	77	79
26	79	80	82	81	84	87	89	91	87	79	73	66	63	63	61	61	61	62	62	64	65	67	69	70	73
27	73	77	80	83	86	87	89	90	89	79	68	66	65	63	63	64	66	71	73	74	74	76	76	76	76
28	77	76	76	76	76	78	79	81	77	71	:63	53	48	48	48	48	51	58	64	66	66	65	64	61	66
29	59	59	57	59	60	64	69	69	68	66	57	49	47	45	44	43	44	45	47	49	52	57	58	59	56
30	60	61	63	62	65	67	69	67	68	63	55	51	49	47	46	45	46	46	51	54	54	55	58	59	57
31	60	59	58	58	58	58	58	58	59	55	51	47	46	45	45	46	48	51	53	55	56	58	56	56	54
MEAN	77	77	78	79	80	81	81	81	80	77	72	68	65	64	64	65	67	70	72	74	74	75	76	76	

TOTAL NUMBER OF OBSERVATIONS = 8841 MEAN = 74.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET
TRAILER NO. = 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
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17																									
18																									
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									
31																									
MEAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

RADIAN
CORPORATION

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	79	79	81	82	82	82	82	81	81	79	74	72	72	72	73	72	73	75	76	77	78	79	81	83	78
2	82	80	80	79	82	80	79	78	78	77	75	74	72	70	68	68	70	72	73	73	73	73	75	76	76
3	77	78	80	82	82	81	82	81	81	80	79	78	77	78	78	78	78	80	86	95	94	88	86	85	82
4	85	87	88	88	89	86	83	84	85	86	78	71	66	63	63	67	78	96	100	100	100	99	98	100	85
5	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
6	100	100	100	100	100	100	100	100	100	100	100	99	88	81	80	80	82	84	89	89	89	88	82	83	92
7	86	87	88	86	88	91	92	93	92	88	82	78	75	73	73	74	74	77	79	82	81	82	83	83	83
8	85	85	84	85	85	85	85	85	89	91	92	90	90	92	94	96	98	99	100	100	100	100	100	100	93
9	100	100		100	99	99	99	99	99	98		88	80	72	67	66	72	76	77	77	76	75	73	72	85
10	73	73	72	72	71	70	68	68	66	63	59	59	58	56	56	56	57	59	58	57	57	57	58	59	63
11	60	60	61	62	63	65	65	65	65	64	60	56	53	51	49	49	49	50	52	54	54	56	53	52	57
12	52	51	54	54	55	56	55	55	52	50	46	44	44	43	43	45	47	48	50	52	53	55	55	56	51
13	58	59	60	60	60	61	63	65	65	66	63	60	60	60	63	71	73	74	74	74	73	80	81	81	67
14	83	83	85	86	87	86	88	89	87	86	81	73	69	67			68	70	71	71	74	74	74	75	79
15	75	76	78	79	80	80	80	78	76	72	70	68	66	63	59	60	63	65	67	68	68	67	67	67	71
16	66	69	70	71	73	73	72	72	72	72	70	69	69	75	80	92	100	100	98	93	93	91	88	87	80
17	83	82	82	82	81	80	80	79	77	75	76	70	64	63	62	61	60	64	66	65	66	69	70	71	73
18	72	74	74	75	81	81	82	83	82	79		67	62	60	59	59	60	64	67	67	67	66	66	67	71
19	66	67	67	67	70	73	75	76	74	72	67	66	64	63	61	61	61	62	62	65	69	71	71	72	68
20	72	73	73	71	71	72	72	73	73	70	66	63	59	56	55	56	59	64	68	68	69	68	65	63	67
21	64	65	66	66	65	64	62	62	61	60	58	56	51	49	51	51	53	53	54	56	54	54	54	55	58
22	57	61	66	79	97	100	98	95	99	100	99	97	94	92	93	99	100	100	100	100	100	100	100	100	93
23	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
24	100	100	100	100	100	100	100	100	100	100	100	92	80	75	76	76	74	71	72	84	91	91	93	94	91
25	94	91	89	89	92	95	95	95	95	95	91	83	68	67	70	66	67	72	75	76	77	78	79	81	83
26	82	81	83	84	88	91	92	93	91	87	82	75	71	71	69	69	68	68	68	70	72	73	75	75	79
27	78	83	87	89	90	91	92	93	95	88	77	75	74	72	72	73	75	78	80	81	80	81	81	82	82
28	81	79	79	78	79	81	82	82	80	78	71	62	55	54	54	53	57	63	67	65	68	66	61	62	69
29	60	59	59	59	62	66	71	69	69	71	65	57	54	51	50	48	48	49	51	54	56	57	60	63	59
30	64	65	66	67	67	68	69	69	70	70	63	59	56	54	53	52	52	52	52	53	55	57	60	61	61
31	61	61	60	60	60	59	60	59	60	59	56	54	52	52	51	52	53	55	57	57	59	61	60	60	58
MEAN	78	78	78	79	81	82	82	82	82	80	76	73	70	68	68	69	71	73	74	75	76	76	76	77	

TOTAL NUMBER OF OBSERVATIONS = 8838 MEAN = 76.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARAITON OF RELATIVE HUMIDITY AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1																									
2																									
3																									
4	75	76	77	77	78	74	71	72	75	75	65	58	53	50	50	55	68	88	91	92	91	90	88	91	75
5	92	92	93	93	93	93	93	92	92	91	92	92	92	92	92	92	93	93	93	93	93	93	92	92	93
6	92	92	92	92	91	91	91	91	91	92	92	90	80	69	67	67	69	71	77	76	76	73	67	70	82
7	73	74	74	73	75	79	80	80	78	75	69	64	59	55	56	58	59	63	65	67	67	68	69	69	69
8	71	69	69	69	70	71	71	72	76	79	80	79	79	82	83	86	88	88	88	87	87	87	87	87	80
9	94	94		94	93	93	93	93	93	94		95	85	67	60	60	66	70	71	71	69	68	66	65	80
10	65	65	64	64	64	62	60	60	58	55	50	50	50	49	49	49	50	52	51	49	49	50	50	52	55
11	53	54	54	54	55	56	56	58	57	55	53	51	48	45	43	43	44	45	45	46	47	48	46	45	51
12	45	45	47	47	49	49	49	48	45	43	44	38	38	37	38	40	42	44	45	47	48	50	50	51	45
13	53	54	55	55	55	57	59	61	62	62	59	57	56	57	61	69	72	72	72	70	69	78	79	78	64
14	79	80	81	82	83	83	83	84	81	81	78	70	65	64			65	67	68	68	70	70	70	71	75
15	72	72	73	73	75	75	74	73	71	68	68	64	62	58	55	57	59	60	62	63	64	64	64	64	67
16	64	65	65	67	68	68	67	66	67	67	66	66	66	71	76	90	98	97	94	90	88	85	84	82	76
17	78	72	70	73	73	72	73	70	67	66	69	64	60	59	58	57	56	59	60	60	62	64	66	67	66
18	68	70	70	73	75	76	77	79	77	74		64	59	57	56	56	58	61	63	63	62	62	62	62	67
19	62	64	61	60	64	65	74	70	69	66	64	64	62	60	58	58	59	59	59	62	66	67	68	69	64
20	69	68	67	67	67	68	69	68	69	65	63	60	56	53	52	53	56	59	63	63	64	64	61	58	63
21	59	61	62	61	64	61	59	57	58	57	55	54	49	48	50	50	51	52	53	53	52	52	52	53	55
22	55	60	66	77	94	96	92	88	94	97	97	93	90	87	89	96	96	97	98	98	99	100	100	100	90
23	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	98	96	95	98	99	100	100	100	100
24	100	100	99	99	98	99	98	97	96	96	93	87	75	73	73	73	70	66	67	80	83	86	90	92	87
25	91	87	85	86	91	93	92	92	92	91	89	80	62	63	66	62	63	68	70	72	73	73	74	77	79
26	78	76	79	81	85	88	90	90	88	85	79	71	67	67	63	64	63	64	63	65	67	70	71	71	75
27	74	84	85	87	88	90	90	92	92	85	73	72	71	59	69	70	72	75	77	77	76	77	78	78	80
28	77	73	72	73	74	77	77	75	74	73	:66	57	51	51	52	50	55	61	61	59	63	61	56	56	65
29	55	54	54	55	58	64	67	65	62	63	60	53	51	48	47	45	45	47	48	51	53	54	56	59	55
30	60	60	61	62	62	63	64	63	63	63	58	54	53	51	50	50	50	50	50	50	51	54	56	57	57
31	57	57	55	56	56	55	56	55	55	54	53	51	50	50	50	50	52	53	55	55	56	56	56	56	54
MEAN	72	72	72	74	75	76	76	76	76	74	71	68	64	62	62	64	66	67	68	69	70	71	70	71	

TOTAL NUMBER OF OBSERVATIONS = 7977 MEAN = 70.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

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                    DIURNAL VARIATION OF TEMPERATURE AT 8 FEET(DEG F)
                         TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                                HOUR
         1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

  1     23   22   24   24   24   23   23   23   24   27   30   29   32   31   31   30   29   26   26   25   25   24   24   23   26
  2     23   25   25   25   24   24   25   25   25   26   28   28   29   30   31   30   28   27   28   28   28   28   28   27   27
  3     27   27   26   27   27   26   27   27   28   30   30   31   31   31   33   32   31   29   26   24   24   23   22   22   28
  4     22   21   21   20   19   19   20   18   20   22   23   24   26   26   25   24   22   18   17   17   16   15   14   14   21
  5     14   12   11    9    8   10   11    9    8    9   12   13   14   15   15   16   15   15   14   14   13   12   11    9   12
  6      7    4    5    4    4    4    2    2    3   10   14   19   22   22   23   22   20   14   12   11   11   10   13   11   12
  7     11   12   12   11   10    9    9    8   12   16   19   20   22   23   22   21   19   15   15   15   15   13   13   13   15
  8     12   12   11   11   11   12   11   10   10   11   12   13   14   13   14   12   10    8    6    4    2    2    0    0   10
  9           0       - 2  - 2    0  - 2  - 1    0    1         8   11   12   15   15   13    9    9    8    8   10   10    8    6
 10      8    6    9    6    9    9   12   12   13   17   19   20   21   22   23   23   21   19   18   16   16   16   14   14   16
 11     13   14   13   12   10   10   11   11   11   18   23   26   28   30   30   31   28   22   19   18   17   17   18   18   19
 12     18   19   18   18   17   17   18   19   22   27   30   33   34   35   33   32   30   28   25   25   23   22   22   22   25
 13     21   18   16   20   20   20   19   19   20   22   27   29   30   29   28   27   26   24   22   21   19   16   13   13   22
 14     14   14   13   12   12   12    9   11   12   15   20   24   27   28             27   24   21   20   18   19   17   16   18
 15     15   15   15   15   15   16   16   16   19   24   26   28   30   33   34   32   29   25   23   24   23   23   23   22   23
 16     22   21   21   21   18   19   18   18   20   23   28   29   29   28   29   26   25   24   24   23   23   20   18   19   23
 17     15   17   18   17   17   20   21   21   22   27   30   33   35   36   37   38   37   35   34   34   33   31   29   27   28
 18     27   26   25   23   25   25   24   25   25   30        41   44   45   45   44   43   37   34   33   32   32   33   32   33
 19     33   31   31   29   28   27   25   24   27   32   37   39   39   41   41   41   39   36   31   29   31   30   29   28   33
 20     29   28   24   27   27   27   26   25   28   32   38   40   42   44   44   43   40   35   32   29   30   31   29   29   33
 21     29   27   27   27   27   28   28   30   30   33   38   40   44   45   43   43   40   38   37   36   36   34   32   31   35
 22     31   32   31   30   27   28   28   29   29   30   31   32   33   33   33   32   31   30   30   30   30   29   30   29   31
 23     29   28   28   28   28   27   27   26   26   26   28   28   30   30   30   29   28   27   26   23   25   24   23   23   28
 24     23   22   19   15   17   16   14   16   17   22   26   28   29   30   30   31   30   27   22   19   20   18   19   17   22
 25     18   19   17   16   16   16   16   15   17   22   25   30   33   33   33   33   31   26   23   22   20   19   19   19   23
 26     18   16   17   17   16   15   15   15   18   24   27   30   32   32   33   32   31   28   25   24   24   23   22   21   24
 27     19   19   19   18   19   19   17   16   19   25   30   32   34   35   36   35   33   29   27   25   24   23   23   22   25
 28     21   20   20   20   19   19   18   17   22   28   32   36   38   39   40   41   38   32   29   26   26   25   22   25   27
 29     23   23   22   22   21   20   19   21   21   26   31   33   34   36   36   36   35   31   27   27   23   19   20   20   27
 30     13   18   17   16   14   12   13   14   14   21   27   29   31   33   34   34   34   33   26   25   25   26   23   24   24
 31     23   23   23   23   23   22   23   22   23   32   36   40   42   42   42   42   39   35   32   31   29   28   29   30   31
MEAN    21   20   20   19   18   18   18   18   19   23   27   29   31   32   32   31   29   27   24   23   23   22   21   21

                    TOTAL NUMBER OF OBSERVATIONS =  8823     MEAN  =      24.

            : INDICATES CALIBRATION DURING THE HOUR
```

RADIAN
CORPORATION

```
                DIURNAL VARIATION OF TEMPERATURE AT 30 FEET(DEG F)
                    TRAILER NO. = 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                            HOUR
        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

 1     22  22  22  22  23  22  21  22  22  25  27  27  28  28  28  28  26  25  24  23  23  23  22  21   24
 2     21  23  23  23  21  22  23  22  22  23  24  25  26  27  28  27  26  26  26  26  27  27  26  26   25
 3     25  25  25  25  25  25  25  26  26  27  29  29  30  30  31  30  29  28  25  22  22  21  20  20   26
 4     20  19  19  19  18  18  18  17  18  20  21  21  23  24  23  22  20  17  16  15  15  14  13  12   19
 5     12  11  10   9   8   8   6   7   6   7   9  10  11  12  12  13  12  12  12  12  11  10   9   8   10
 6      7   6   5   5   3   3   3   1   2   7  11  17  19  20  20  20  18  14  11  10  10  11  12  10   11
 7     10  11  10  11   9   8   7   6   8  13  16  17  19  20  19  18  17  14  13  12  12  11  10  10   13
 8     10  10   9   9   9  10   9   9   7   8   8  10  11  10  10   9   6   4   2   0   0   0   0   0    7
 9    - 1 - 2     - 4 - 4 - 3 - 4 - 4 - 2   0       4   8  10  11  12  10   6   6   5   6   7   7   6    3
10      6   6   7   6   7   7   9   9  11  14  16  17  18  19  20  21  19  17  16  15  15  15  14  13   14
11     13  14  13  13  11   9  11  11  11  15  21  24  27  28  29  29  27  24  19  17  17  16  17  18   19
12     18  19  17  18  18  16  18  16  21  25  29  30  31  33  32  31  28  27  25  24  23  22  22  21   24
13     20  18  18  20  19  18  18  19  20  20  25  27  28  28  26  25  25  24  23  22  19  16  16  14   22
14     14  14  13  12  11  12  11  11  12  13  19  23  25  25          25  23  22  20  17  18  17  16   17
15     15  15  14  14  13  14  14  15  17  22  24  25  27  30  32  30  28  25  23  24  24  25  23  23   22
16     24  22  21  20  18  18  19  19  19  21  26  27  28  26  27  24  23  23  23  23  22  21  21  20   23
17     19  18  18  18  19  19  21  21  22  25  28  31  34  35  36  37  37  35  34  34  33  32  32  31   28
18     29  29  29  26  25  26  25  26  26  30      40  43  43  43  44  42  37  34  33  32  32  34  32   34
19     33  32  32  30  28  27  24  25  27  30  36  38  39  40  40  40  39  38  36  32  31  31  31  30   33
20     31  29  28  28  29  27  28  27  28  32  37  39  42  43  44  43  40  36  33  31  31  30  31  29   34
21     29  28  27  28  29  29  30  30  31  33  38  40  43  44  42  42  41  40  38  37  37  36  36  34   36
22     32  33  32  29  27  27  27  28  28  29  31  32  32  33  33  32  31  30  30  30  29  29  29  28   30
23     28  28  28  27  27  26  26  25  25  25  26  27  28  29  29  28  27  26  26  24  24  24  22  22   27
24     22  21  19  16  16  16  14  16  16  19  24  27  28  29  30  30  29  27  24  21  20  19  19  17   22
25     17  18  17  19  17  16  16  15  16  20  24  28  31  31  31  31  29  26  23  21  19  19  19  18   22
26     18  17  17  17  16  16  15  14  17  22  25  27  29  30  31  31  29  25  24  23  23  22  21  20   22
27     19  18  18  18  19  18  17  16  17  24  28  29  32  33  34  34  32  29  26  24  23  23  22  22   24
28     21  20  21  20  21  20  19  18  21  26  31  35  36  37  38  39  37  32  28  27  26  27  27  25   28
29     25  24  23  24  22  21  19  22  21  24  30  32  34  35  35  35  34  32  30  27  26  24  20  20   27
30     19  19  16  16  16  13  15  14  12  19  25  28  30  32  33  34  34  33  31  28  26  26  25  25   24
31     24  23  25  23  24  24  24  23  22  30  35  39  41  41  41  41  39  36  33  32  30  28  29  30   31
MEAN   20  19  20  18  18  18  17  17  18  21  25  27  29  30  30  30  28  26  24  23  22  22  21  21

              TOTAL NUMBER OF OBSERVATIONS =  8633     MEAN  =      23.

      : INDICATES CALIBRATION DURING THE HOUR
```

DIURNAL VARIATION OF TEMPERATURE AT 100 FEET(DEG F)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	23	23	23	23	22	22	21	21	21	24	26	26	27	27	27	26	25	24	23	23	23	23	22	21	24
2	21	23	23	22	21	22	22	22	22	23	23	23	24	26	26	26	25	25	25	26	25	26	25	25	24
3	25	25	24	24	24	24	24	25	25	26	27	28	29	29	29	29	28	27	24	21	21	21	20	20	25
4	20	19	19	18	18	19	19	18	18	19	20	20	22	22	22	21	19	16	16	16	16	15	15	13	19
5	12	11	11	10	9	8	8	7	6	6	8	9	11	12	11	12	12	12	11	11	11	10	9	8	10
6	9	8	7	7	4	4	4	3	5	8	11	15	17	19	19	19	17	14	12	11	11	12	14	12	11
7	13	11	11	12	10	9	8	7	8	12	15	16	18	18	18	17	16	14	13	12	12	11	10	10	13
8	12	11	10	9	10	10	10	11	8	7	8	9	10	9	9	8	6	4	2	0	0	0	0	0	7
9	0	-1		-2	-3	-2	-3	-2	-1	0		3	7	9	11	11	9	6	6	6	6	7	7	7	3
10	7	7	7	7	6	8	9	10	10	14	16	16	17	19	20	20	18	17	16	16	16	15	15	15	14
11	16	16	15	14	13	12	13	13	13	15	20	23	25	27	29	29	27	24	21	20	20	19	22	21	20
12	20	21	20	20	18	17	18	18	21	24	27	29	30	32	31	30	28	26	25	24	22	21	22	21	24
13	21	19	20	21	19	19	18	19	20	20	24	26	26	26	25	24	24	23	22	22	20	16	17	16	22
14	15	15	14	13	13	14	13	12	14	14	18	21	23	24			24	22	21	19	18	18	17	17	18
15	17	16	15	14	14	14	15	16	17	21	23	24	26	28	31	29	28	26	24	24	24	26	25	25	22
16	24	22	21	20	19	19	20	21	21	22	25	26	27	25	26	23	23	22	23	23	22	22	21	21	23
17	21	20	20	20	20	21	21	22	23	25	27	30	32	34	34	36	36	34	33	33	33	32	32	31	28
18	31	31	31	27	26	27	27	27	28	32		39	41	42	42	43	42	38	36	36	35	35	35	35	35
19	35	34	34	33	31	29	26	25	26	30	34	36	37	38	38	39	38	37	37	33	31	31	31	32	34
20	32	30	29	30	30	29	28	28	28	31	35	38	40	41	42	41	39	35	32	32	31	32	33	32	34
21	32	30	29	29	29	29	31	30	31	33	36	38	42	42	42	42	41	40	39	37	38	38	38	37	36
22	35	33	32	29	27	27	28	28	28	28	29	30	31	31	31	31	30	30	30	29	29	29	29	28	30
23	27	27	27	26	26	25	25	24	24	24	25	26	27	27	27	27	26	26	25	25	24	24	22	22	26
24	22	21	20	17	17	16	16	17	18	19	23	26	27	28	29	29	29	28	25	23	21	20	20	19	23
25	19	19	19	20	18	18	18	17	17	19	23	28	30	30	30	31	29	26	24	22	21	21	21	20	23
26	20	20	18	18	17	15	16	16	17	21	23	26	27	28	29	29	29	27	25	23	23	22	22	21	23
27	20	19	19	19	20	19	18	17	17	23	25	28	30	31	32	32	31	28	26	24	23	23	24	23	24
28	23	23	23	23	23	20	20	20	22	25	30	34	35	37	38	38	35	31	30	29	26	27	30	27	28
29	28	27	26	26	24	24	22	25	24	24	29	31	33	34	34	33	33	31	29	27	26	24	22	22	28
30	20	20	18	17	17	16	15	16	15	18	24	26	29	31	32	33	34	33	33	30	27	27	26	27	25
31	27	26	27	27	27	27	25	25	25	29	34	37	39	39	39	39	37	36	34	34	31	30	31	31	32
MEAN	21	21	21	20	19	19	18	18	19	21	24	26	27	28	29	29	27	26	24	23	23	22	22	22	

TOTAL NUMBER OF OBSERVATIONS = 8835 MEAN = 23.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF TEMPERATURE AT 200 FEET(DEG F)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	21	21	21	21	21	20	20	20	19	22	24	24	25	25	25	25	24	22	22	21	21	21	20	20	22
2	23	21	21	21	20	20	20	20	20	21	22	22	23	24	25	24	23	23	23	24	23	24	24	23	23
3	23	23	22	22	22	22	23	23	24	25	26	26	27	27	28	27	26	25	24	19	19	19	18	18	24
4	18	18	17	17	17	17	17	17	17	17	18	19	21	21	20	19	17	14	15	13	13	13	12	10	17
5	10	9	9	8	6	7	6	5	4	4	6	7	8	9	9	9	9	9	9	9	9	8	7	6	8
6	5	4	3	3	2	2	2	2	3	6	9	12	15	17	17	17	15	12	10	10	9	11	12	10	9
7	10	10	10	10	8	7	5	5	6	10	13	14	17	18	17	16	14	12	11	10	10	9	8	8	11
8	7	8	8	9	9	9	9	9	6	5	5	6	7	7	7	5	3	1	0	0	0	0	-1	-1	5
9	-2	-3		-5	-6	-6	-6	-5	-4	-2		0	4	6	8	9	7	4	3	3	4	5	5	5	1
10	5	5	5	5	5	6	7	8	8	12	14	14	16	17	18	18	16	15	15	15	14	14	13	14	12
11	15	14	14	14	13	13	12	13	14	15	19	22	25	26	27	27	26	23	20	20	20	20	21	20	19
12	19	19	19	19	17	17	17	17	19	23	26	26	29	32	30	28	26	25	23	22	21	20	20	20	23
13	18	17	17	18	16	18	17	17	18	18	22	24	25	25	23	22	22	22	21	21	19	15	16	15	20
14	14	14	13	13	12	13	12	12	13	14	16	19	22	22			22	21	19	17	16	16	16	15	16
15	14	14	14	14	13	14	15	15	16	19	21	22	24	27	29	28	26	25	24	23	23	24	23	23	21
16	22	21	20	19	16	19	20	21	21	20	23	25	25	23	24	21	21	21	22	21	21	21	20	19	22
17	20	21	21	19	19	20	20	21	22	24	26	28	30	32	33	34	34	33	32	33	32	32	31	31	28
18	30	30	29	27	26	27	28	27	29	32		37	39	40	40	41	39	36	34	34	34	34	33	33	34
19	33	32	33	33	30	30	26	26	27	29	33	35	36	36	37	38	37	37	36	33	31	30	30	31	33
20	31	30	29	29	29	29	28	28	28	31	34	36	39	40	41	39	38	35	32	32	31	31	31	31	33
21	31	30	29	29	29	29	30	31	31	32	35	37	40	40	40	40	39	38	37	36	36	36	36	35	35
22	33	31	30	20	24	24	26	26	26	26	28	29	29	30	30	29	29	29	28	28	27	27	27	27	28
23	26	25	25	25	24	24	23	23	23	22	24	24	25	25	25	25	24	24	24	23	23	23	21	21	24
24	20	19	19	16	16	16	15	16	17	19	21	23	24	25	26	26	26	25	24	23	22	19	18	18	21
25	18	18	18	18	17	17	17	16	17	18	21	25	27	27	28	28	27	24	22	20	19	19	19	18	21
26	19	19	18	18	17	16	16	15	15	19	21	24	26	28	29	26	28	25	24	22	22	22	22	20	22
27	19	18	18	18	18	16	17	16	17	21	25	26	28	30	30	30	30	27	25	23	22	22	21	21	23
28	21	23	22	21	21	19	20	20	22	24	28	31	33	34	35	36	34	30	30	29	26	26	28	26	27
29	26	25	24	24	22	22	21	23	23	23	28	29	31	31	32	32	31	30	29	26	25	23	21	20	26
30	19	19	18	17	17	16	15	16	15	17	22	24	26	29	30	31	32	32	31	31	28	26	26	26	24
31	25	25	25	25	26	25	24	25	25	29	32	36	38	38	38	37	36	35	33	33	31	30	30	29	31
MEAN	19	19	20	18	18	17	17	17	18	19	23	24	26	27	27	27	26	24	23	22	21	21	21	20	

TOTAL NUMBER OF OBSERVATIONS = 8637 MEAN = 21.

: INDICATES CALIBRATION DURING THE HOUR

HOURLY TOTAL SOLAR RADIATION(LANGLEY)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL
1	0	0	0	0	0	0	0	1	6	21	34	16	34	24	18	11	5	0	0	0	0	0	0	0	166
2	0	0	0	0	0	0	0	0	9	18	30	28	30	32	24	10	2	0	0	0	0	0	0	0	183
3	0	0	0	0	0	0	0	0	2	5	7	7	8	7	14	8	2	0	0	0	0	0	0	0	60
4	0	0	0	0	0	0	0	0	3	12	16	25	45	31	14	7	1	0	0	0	0	0	0	0	154
5	0	0	0	0	0	0	0	0	2	8	8	10	9	8	6	3	0	0	0	0	0	0	0	0	54
6	0	0	0	0	0	0	0	0	5	10	14	17	18	15	13	10	3	0	0	0	0	0	0	0	106
7	0	0	0	0	0	0	0	0	8	15	20	20	34	36	29	17	4	0	0	0	0	0	0	0	185
8	0	0	0	0	0	0	0	0	2	7	11	21	24	18	19	8	2	0	0	0	0	0	0	0	112
9	0	0		0	0	0	0	1	16	28		47	54	45	32	18	4	0	0	0	0	0	0	0	245
10	0	0	0	0	0	0	0	0	9	21	19	19	17	16	13	9	3	0	0	0	0	0	0	0	126
11	0	0	0	0	0	0	0	0	9	23	34	40	41	38	30	18	5	0	0	0	0	0	0	0	238
12	0	0	0	0	0	0	0	0	7	21	30	37	39	39	22	6	1	0	0	0	0	0	0	0	202
13	0	0	0	0	0	0	0	0	3	14	23	38	37	22	8	11	3	0	0	0	0	0	0	0	159
14	0	0	0	0	0	0	0	1	18	29	33	38	48	28		3	7	0	0	0	0	0	0	0	205
15	0	0	0	0	0	0	0	0	9	23	34	41	42	39	26	7	4	0	0	0	0	0	0	0	225
16	0	0	0	0	0	0	0	0	4	9	17	12	9	14	19	3	3	0	0	0	0	0	0	0	90
17	0	0	0	0	0	0	0	0	7	13	18	34	34	34	19	17	4	0	0	0	0	0	0	0	176
18	0	0	0	0	0	0	0	1	15	18		35	44	38	32	21	9	0	0	0	0	0	0	0	214
19	0	0	0	0	0	0	0	1	10	23	33	44	42	40	33	17	4	0	0	0	0	0	0	0	243
20	0	0	0	0	0	0	0	0	10	23	33	36	43	42	27	15	6	0	0	0	0	0	0	0	235
21	0	0	0	0	0	0	0	0	6	17	25	24	36	41	19	12	3	0	0	0	0	0	0	0	183
22	0	0	0	0	0	0	0	0	4	10	7	8	10	9	7	5	1	0	0	0	0	0	0	0	61
23	0	0	0	0	0	0	0	0	0	2	8	8	15	11	10	7	3	0	0	0	0	0	0	0	64
24	0	0	0	0	0	0	0	1	13	22	30	40	45	43	53	30	7	0	0	0	0	0	0	0	289
25	0	0	0	0	0	0	0	3	26	43	55	66	63	51	37	23	9	0	0	0	0	0	0	0	376
26	0	0	0	0	0	0	0	2	15	29	35	44	46	43	36	23	9	1	0	0	0	0	0	0	283
27	0	0	0	0	0	0	0	2	16	30	38	44	46	43	36	24	10	0	0	0	0	0	0	0	289
28	0	0	0	0	0	0	0	1	13	26	38	45	47	44	35	24	10	0	0	0	0	0	0	0	284
29	0	0	0	0	0	0	0	1	13	25	36	45	47	44	37	22	11	0	0	0	0	0	0	0	281
30	0	0	0	0	0	0	0	1	12	26	38	45	47	44	36	24	10	1	0	0	0	0	0	0	284
31	0	0	0	0	0	0	0	1	13	26	36	45	47	44	31	20	6	0	0	0	0	0	0	0	271
TOTAL/10	0	0	0	0	0	0	0	2	29	60	76	98	110	98	74	43	15	0	0	0	0	0	0	0	

TOTAL NUMBER OF OBSERVATIONS = 8848 TOTAL = 6043.

* INDICATES CALIBRATION DURING THE HOUR

TEMPERATURE CHANGE FROM 30' TO 100' (DEG F*10)
TRAILER NO. = 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	4	1	0	0	0	1	0	-1	-4	-7	-4	-8	-7	-6	-5	-3	0	0	0	0	1	1	3	-2.2
2	4	0	0	0	0	0	0	0	0	-4	-7	-7	-7	-8	-8	-4	-1	-1	-1	-1	-1	-1	-1	-1	-3.3
3	-1	0	-1	-1	-1	-1	-1	0	-1	-2	-3	-3	-3	-3	-4	-4	-3	-1	-1	0	0	0	0	0	-3.4
4	0	1	0	0	2	4	4	11	6	-3	-4	-4	-7	-6	-4	-3	-2	0	1	0	0	4	7	1	0.7
5	0	1	2	9	15	6	0	3	1	-1	-1	-1	-4	-4	-4	-2	0	0	0	0	0	0	0	2	0.8
6	6	8	12	9	12	8	14	24	21	2	3	-18	-10	-8	-7	-7	-1	3	9	12	8	14	16	12	6.9
7	18	5	11	8	10	4	3	4	0	-5	-7	-8	-8	-8	-7	-5	-1	0	3	0	0	1	0	0	1.1
8	0	1	2	5	11	6	7	17	4	-1	-2	-5	-5	-4	-5	-3	-1	0	0	0	0	1	1	3	1.5
9	3	6		12	10	7	8	10	7	0		-14	-5	-3	-3	-5	-2	0	0	2	4	1	1	7	2.1
10	9	8	5	8	5	7	1	0	0	-2	-3	-3	-3	-3	-2	-2	0	0	1	8	7	5	13	20	3.2
11	18	10	24	14	23	24	14	23	27	8	-1	-4	-7	-8	-6	-6	-2	5	11	26	31	25	40	26	13.9
12	25	25	32	23	13	17	11	6	2	-3	-5	-7	-7	-9	-5	-2	0	0	2	1	1	2	5	4	6.3
13	3	8	15	7	10	7	6	4	3	0	-5	-7	-9	-7	-4	-3	-1	0	2	8	12	7	17	23	4.0
14	10	8	10	14	19	28	18	17	20	10	-4	-5	-9	-6			-2	0	1	0	6	4	8	13	7.6
15	7	10	13	8	7	6	13	13	3	-4	-6	-8	-9	-7	-6	-3	0	14	12	7	12	9	9	17	5.1
16	6	9	8	4	12	17	20	23	19	9	-3	-4	-4	-5	-6	-3	-2	0	3	3	2	10	13	9	6.2
17	21	24	24	17	18	21	9	12	12	3	-3	-6	-5	-5	-5	-5	-3	0	0	0	6	11	7	11	7.8
18	15	19	15	23	11	10	23	24	24	25		-7	-10	-9	-9	-7	-4	2	10	17	22	28	12	25	11.4
19	15	10	16	24	25	16	14	15	13	1	-4	-6	-7	-9	-8	-6	-1	3	15	22	9	5	7	15	8.3
20	7	12	22	26	22	20	14	21	10	5	-4	-6	-8	-8	-7	-6	-2	2	6	20	13	17	17	16	9.3
21	15	15	22	16	13	12	12	7	9	4	-4	-3	-7	-9	-6	-4	-1	0	3	3	10	16	21	25	7.5
22	21	4	0	-2	-1	0	0	0	-2	-3	-3	-4	-5	-5	-4	-3	-2	0	-1	-2	-2	-1	-1	-1	-2.8
23	-1	-1	-1	-1	-1	-1	-1	-1	-2	-3	-5	-5	-7	-7	-6	-5	-3	0	0	4	3	1	3	1	-3.4
24	0	1	10	15	13	12	22	19	16	0	-3	-8	-9	-9	-8	-7	-4	0	21	30	18	17	12	19	7.1
25	24	22	24	12	16	21	23	22	15	0	-1	-7	-10	-10	-9	-8	-4	2	4	4	12	15	16	18	8.1
26	15	21	18	16	20	6	20	20	6	-6	-8	-8	-10	-10	-9	-7	-4	0	1	1	2	4	9	9	4.2
27	13	10	13	13	14	15	14	13	12	-5	-9	-10	-10	-10	-9	-8	-5	0	2	3	6	9	11	7	3.3
28	11	19	17	20	16	12	21	27	10	0	-5	-9	-10	-9	-9	-7	-5	1	17	23	13	12	29	11	8.7
29	20	26	20	21	15	29	27	20	21	0	-5	-8	-9	-9	-8	-5	-1	0	3	5	4	9	22	10	9.6
30	14	13	20	21	16	31	11	22	29	-3	-3	-5	-6	-9	-6	-5	-4	0	17	30	14	12	19	18	10.4
31	24	23	18	20	26	21	22	30	27	3	-4	-7	-10	-9	-8	-6	-3	0	8	16	7	11	7	7	9.1
MEAN	11	11	13	12	12	12	11	14	10	-0	-5	-8	-9	-9	-8	-6	-4	1	5	8	7	8	11	11	

TOTAL NUMBER OF OBSERVATIONS = 8800 MEAN = 5.

: INDICATES CALIBRATION DURING THE HOUR

TEMPERATURE CHANGE FROM 30' TO 200' (DEG F*10)
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-6	-5	-14	-13	-13	-13	-9	-16	-18	-22	-25	-22	-24	-23	-20	-16	-14	-19	-18	-17	-18	-15	-10	-8	-17
2	-7	-14	-15	-10	-13	-15	-18	-18	-14	-18	-21	-25	-25	-23	-20	-21	-20	-19	-20	-20	-19	-19	-19	-20	-20
3	-19	-19	-20	-20	-20	-20	-20	-19	-20	-21	-22	-22	-22	-22	-24	-23	-21	-19	-13	-19	-18	-17	-14	-14	-21
4	-13	-11	-14	-13	-10	-6	-8	0	-6	-22	-23	-20	-19	-22	-22	-22	-22	-19	-12	-15	-19	-10	-5	-9	-16
5	-15	-11	-11	-3	2	-4	-15	-10	-12	-20	-19	-21	-23	-24	-24	-23	-21	-20	-20	-20	-17	-15	-13	-14	-17
6	-13	-7	-5	-7	0	-1	5	13	12	-10	-12	-40	-33	-27	-26	-27	-19	-7	-1	3	-2	5	2	0	-9
7	3	-8	3	-6	-3	-10	-11	-8	-14	-26	-27	-25	-16	-9	-15	-15	-21	-14	-7	-12	-13	-13	-14	-14	-14
8	-13	-9	-5	2	0	-3	0	9	-7	-21	-24	-26	-27	-26	-26	-26	-24	-23	-22	-22	-21	-17	-16	-13	-16
9	-12	-8		-4	-9	-12	-6	-5	-8	-19		-34	-29	-27	-27	-27	-24	-18	-19	-13	-11	-14	-16	-6	-17
10	-3	-4	-9	-6	-10	-6	-14	-15	-17	-18	-15	-21	-22	-21	-22	-20	-19	-17	-12	-2	-5	-6	3	9	-13
11	8	0	9	5	19	27	1	13	23	0	-20	-23	-25	-25	-25	-23	-19	-4	7	23	24	29	32	21	3
12	21	14	22	16	2	10	0	-2	-9	-20	-19	-20	-22	-7	-7	-16	-16	-16	-10	-12	-12	-10	-7	-9	-6
13	-10	-2	4	-8	-1	-2	-6	-9	-10	-12	-25	-27	-26	-24	-23	-23	-19	-16	-9	-2	3	0	4	12	-11
14	4	-1	4	12	15	19	17	15	18	13	-23	-25	-27	-25			-21	-18	-14	-15	-7	-5	-1	0	-4
15	-2	0	5	7	1	0	9	4	-9	-23	-27	-23	-27	-25	-23	-21	-12	6	8	0	0	-5	-1	5	-7
16	-5	0	3	-3	2	13	18	20	16	0	-21	-23	-23	-23	-25	-22	-20	-14	-7	-10	-8	-1	0	0	-7
17	8	29	35	9	10	10	0	8	7	-6	-21	-25	-25	-24	-22	-22	-19	-10	-4	-7	0	2	1	3	-3
18	9	14	8	19	14	8	24	21	30	22		-23	-25	-25	-25	-24	-20	-4	3	11	19	21	6	20	4
19	9	0	19	31	23	26	15	15	9	-2	-23	-25	-24	-25	-24	-22	-16	-4	4	17	3	0	0	7	0
20	0	13	21	19	12	18	4	18	2	-1	-22	-23	-24	-24	-22	-23	-18	0	0	14	6	10	9	19	-0
21	18	15	20	21	12	6	3	16	3	-7	-21	-18	-24	-24	-23	-21	-16	-14	-6	0	1	6	8	13	-2
22	12	-7	-14	-19	-16	-13	-5	-10	-19	-22	-21	-21	-22	-22	-22	-21	-18	-14	-17	-19	-19	-18	-17	-17	-17
23	-17	-18	-18	-18	-18	-18	-18	-18	-18	-19	-19	-20	-22	-26	-25	-24	-20	-14	-13	-6	-8	-7	-4	-13	-18
24	-15	-13	0	7	9	11	23	14	10	2	-16	-25	-27	-27	-27	-25	-21	-15	8	24	21	8	0	8	-3
25	13	10	15	3	4	11	12	15	7	-10	-20	-26	-28	-27	-26	-25	-22	-8	-2	-5	1	7	6	7	-4
26	5	15	7	4	7	-3	5	6	-5	-25	-27	-27	-25	-24	-16	-25	-19	-14	-11	-10	-10	-8	0	-1	-9
27	2	5	1	3	1	0	5	2	5	-22	-27	-28	-29	-28	-27	-25	-20	-12	-5	-4	-3	0	0	-1	-9
28	1	24	19	15	5	2	19	32	5	-15	-23	-26	-27	-26	-25	-24	-22	-7	21	20	7	3	20	9	0
29	9	20	17	12	8	16	31	9	21	-4	-25	-27	-27	-28	-26	-24	-19	-10	-3	-4	-6	0	12	3	-2
30	0	1	13	8	6	18	1	16	32	-10	-24	-26	-26	-29	-20	-24	-21	-15	4	25	8	4	11	10	-2
31	15	17	7	23	21	10	10	25	32	-4	-21	-20	-27	-26	-25	-24	-19	-14	0	4	2	10	0	1	-1
MEAN	-1	1	3	2	2	2	2	4	1	-13	-23	-26	-26	-25	-24	-24	-21	-14	-7	-4	-5	-3	-1	-0	

TOTAL NUMBER OF OBSERVATIONS = 8821 MEAN = -8.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF BAROMETRIC PRESSURE
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

	HOUR																									
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	781	781	781	781	780	780	781	781	781	782	782	781	780	780	781	781	781	781	781	782	782	782	782	782	781	2
2	782	782	783	782	782	782	792	783	783	784	784	784	783	783	783	783	783	783	783	783	783	783	783	782	783	3
3	782	731	781	780	780	779	779	779	778	777	776	775	774	773	773	773	773	773	773	774	775	775	775	776	777	4
4	777	777	778	779	779	779	780	781	782	783	783	783	783	783	783	783	783	783	784	784	784	784	784	784	782	7
5	784	784	784	794	783	783	783	783	783	783	783	782	781	781	781	782	732	783	783	784	784	785	785	786	783	8
6	785	787	787	788	788	788	789	789	790	791	791	791	791	791	791	791	791	791	792	792	791	791	791	791	790	9
7	791	791	790	790	790	790	789	789	789	788	788	787	785	785	785	784	784	784	784	783	783	782	782	782	787	1
8	782	781	781	781	780	780	780	780	780	780	779	779	778	778	778	778	776	778	778	779	780	780	781	781	780	5
9	782	782		793	783	783	794	785	786	787		787	787	786	786	787	787	787	788	788	788	788	788	788	786	1
10	788	788	788	798	788	787	787	787	787	797	787	787	786	786	786	785	786	786	786	786	786	797	787	787	787	2
11	787	787	788	789	789	789	789	790	790	791	791	791	790	790	790	790	790	790	790	790	790	790	790	790	790	9
12	790	789	789	789	788	788	787	787	787	787	787	786	785	784	785	784	785	785	785	785	785	785	785	785	787	3
13	785	785	786	786	786	786	786	786	786	786	785	788	785	784	785	785	785	785	785	786	786	786	786	787	786	0
14	787	787	797	798	788	788	788	788	788	789	789	788	787	786			787	788	788	788	788	788	788	788	788	6
15	782	788	789	788	788	788	788	788	788	789	789	789	788	788	789	789	790	790	790	791	791	791	792	792	789	1
16	791	791	791	791	792	792	792	792	793	793	793	793	792	792	792	792	793	794	794	795	795	795	796	797	793	2
17	797	797	797	797	797	797	797	797	797	797	798	797	797	796	796	796	796	798	797	797	797	797	797	798	797	8
18	798	798	798	798	798	798	798	799	799	799		798	797	796	796	795	795	795	794	794	794	794	793	793	797	4
19	793	793	793	793	793	794	794	795	795	795	795	795	794	793	793	793	793	793	793	793	793	793	793	793	794	3
20	793	793	793	793	792	792	792	792	793	793	793	793	792	792	792	792	792	792	792	792	792	793	793	793	793	3
21	793	793	793	792	792	792	792	792	792	792	792	791	791	790	790	790	790	790	790	789	789	789	789	789	791	5
22	790	789	790	790	790	790	790	790	790	790	790	790	789	789	789	789	789	789	789	789	789	789	789	789	790	8
23	789	789	789	789	789	789	789	789	790	790	790	790	790	790	790	790	790	790	790	791	791	792	792	792	790	4
24	792	792	792	792	792	792	792	793	793	793	793	793	793	792	791	791	791	791	791	791	791	791	791	791	792	1
25	791	791	791	791	791	791	791	791	791	791	791	790	789	789	789	789	788	788	788	788	788	788	789	789	790	1
26	788	788	788	788	788	788	788	788	798	798	788	787	786	785	785	785	785	785	785	785	785	785	785	785	787	2
27	785	785	785	785	785	785	785	785	786	786	787	786	786	785	785	785	785	785	786	786	785	786	787	786	786	3
28	787	787	787	787	787	787	787	788	788	789	789	789	788	788	788	788	788	788	789	789	789	789	789	789	788	7
29	789	789	789	789	789	788	788	789	788	788	788	788	787	787	786	786	786	786	787	787	787	788	788	789	788	6
30	789	789	789	790	790	790	790	790	791	791	791	791	791	791	790	791	790	791	791	791	792	792	792	792	791	4
31	792	792	793	792	792	792	792	792	792	792	792	791	791	790	790	789	789	789	789	788	788	788	788	788	791	1
MEAN	758	788	789	788	788	788	788	788	789	789	787	789	788	787	787	787	787	788	788	788	788	788	788	788		

TOTAL NUMBER OF OBSERVATIONS = 8839   MEAN = 788.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	8	10	7	9	3	3	4	5	3	16	17	16	16	17	18	18	14	15	13	15	12	12	13	12
2	13	15	11	14	14	16	16	14	15	17	17	16	17	16	17	17	13	12	13	11	9	21	21	14	15
3	15	12	13	10	8	8	10	11	14	13	18	20	16	18	14	16	7	3	11	5	7	7	15	14	12
4	14	14	8	4	4	4	3	4	4	3	7	10	10	9	7	7	7	3	3	3	0	3	1	0	6
5	0	0	0	1	1	0	0	0	0	0	0	0	0	1	2	4	4	2	2	1	2	2	1	0	1
6	0	0	0	0	2	1	1	0	1	0	1	1	4	4	5	8	9	4	5	2	0	0	2	1	3
7	1	1	4	4	7	5	6	5	5	3	7	12	16	17	17	18	9	7	7	5	4	7	5	4	8
8	5	4	3	4	4	4	5	6	2	4	5	3	5	7	8	7	9	11	9	9	9	8	6	6	6
9	6	3		3	2	0	0	1	1	1		1	1	2	3	8	12	14	14	5	4	5	6	3	5
10	4	6	7	4	4	4	6	11	12	18	18	15	15	15	13	15	11	7	8	5	3	3	4	4	9
11	3	1	2	2	1	1	1	1	2	3	3	3	2	4	5	5	6	8	5	5	6	5	5	5	4
12	4	5	5	5	6	4	3	3	8	6	11	12	13	18	17	14	4	3	7	4	2	4	4	4	7
13	3	3	4	2	3	4	2	1	0	2	4	4	6	3	7	5	2	3	3	4	2	4	4	3	4
14	2	0	0	0	1	4	3	0	1	1	1	3	3	5			6	3	2	4	2	1	3	4	3
15	5	7	6	11	12	14	12	10	11	13	15	16	11	7	7	5	5	6	5	4	3	4	4	5	9
16	7	6	9	8	3	4	4	5	4	4	8	4	1	7	5	5	1	2	1	2	3	5	4	2	5
17	4	1	1	2	2	5	2	4	4	2	3	5	4	4	3	4	3	4	4	3	1	2	1	2	3
18	3	4	2	3	2	2	3	2	2	3		2	9	8	7	9	9	9	3	4	4	5	6	5	5
19	5	3	7	6	5	6	2	2	2	3	3	3	3	5	5	3	2	1	3	4	0	0	0	1	4
20	0	0	6	3	4	4	2	4	2	2	3	2	4	3	2	9	7	7	5	6	4	4	4	4	4
21	2	2	1	2	3	1	2	3	2	5	3	2	7	10	9	9	5	4	5	4	4	4	4	6	5
22	5	4	5	5	4	4	4	5	3	3	0	2	2	3	3	4	1	0	0	0	1	2	1	1	3
23	2	3	3	2	2	2	2	3	2	2	2	3	2	4	6	6	4	4	1	2	1	1	1	1	3
24	0	0	1	1	3	1	2	1	0	1	0	2	3	5	3	3	2	2	4	8	2	1	2	3	2
25	3	3	3	2	1	3	2	0	2	1	3	2	7	11	12	11	11	8	8	3	3	4	4	5	5
26	3	4	5	5	5	3	4	4	3	5	10	12	14	14	16	13	14	12	11	10	4	2	3	3	8
27	4	1	2	4	5	5	3	2	3	5	5	7	6	7	11	11	13	11	10	7	2	3	3	3	6
28	1	2	2	1	4	1	5	3	3	3	2	4	8	9	8	8	8	9	7	5	2	2	5	1	5
29	3	2	1	3	2	5	5	5	5	4	3	4	3	6	10	11	10	4	1	3	1	4	1	2	5
30	1	2	1	1	3	2	1	1	2	1	3	4	3	5	4	3	4	0	4	5	1	1	1	2	3
31	3	4	2	5	4	4	2	4	4	2	4	3	5	9	6	9	6	5	3	6	4	5	4	8	5
MEAN	5	4	5	4	5	4	4	4	4	5	6	7	7	9	9	9	8	6	6	5	4	5	5	5	

TOTAL NUMBER OF OBSERVATIONS = 8840   MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

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                    DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET
                     TRAILER NO. - 23  PERIOD( 1/ 1/77 TO  1/31/77)

                                         HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1     13  11  12   9  12   4   4   5   5   4  18  19  18  17  19  21  20  16  19  16  18  15  14  16    142
  2     17  18  14  17  16  19  18  15  17  18  18  17  17  18  19  19  14  13  15  12  11  22  22  15    173
  3     16  13  14  11   9   9  11  13  15  14  20  22  17  19  15  20  10   5  14   6   8   8  18  16    144
  4     18  12  10   5   5   5   4   8   7   5   8  12  12  11   9   8   8   3   3   6   0   2   0   0     77
  5      0   0   0   1   1   0   0   0   0   0   0   0   1   1   1   5   5   2   2   1   3   3   1   0     28
  6      0   0   0   1   2   1   1   0   0   0   1   1   4   5   6   9  10   6   7   3   1   0   2   2     39
  7      1   3   6   6   9   7   9   7   8   4   8  13  16  18  18  19  10   8   9   6   5   9   7   5     91
  8      7   5   4   4   3   5   6   5   4   4   5   3   6   7   9   8  10  12  11  11  11  10   7   8     75
  9      7   6       4   0   0   0   1   1   1       1   0   2   3   8  14  16  17   6   5   7   7   3     51
 10      5   7   9   5   5   5  10  13  14  19  20  16  15  16  14  16  12   9  10   7   4   3   5   2    112
 11      4   1   2   4   3   2   1   0   0   3   2   3   3   5   6   6   7   9   7   5   7   6   4   4     49
 12      3   6   5   6   7   6   4   5  10   7  14  14  14  20  20  16   5   4   8   4   2   4   4   4     83
 13      4   3   2   2   3   6   1   0   0   3   5   4   6   4   8   5   3   3   4   5   4   3   2   1     40
 14      0   0   0   0   0   6   2   2   3   1   1   3   3   6           8   4   3   4   2   3   6   6     36
 15      7  11   8  15  16  17  16  13  14  14  16  17  12   8   8   6   5   6   8   6   4   3   5   5    111
 16      6   8  12  12   4   4   0   7   5   6   9   5   2   7   6   5   0   2   0   3   4   3   2   1     52
 17      2   4   6   3   1   4   4   7   6   2   4   5   5   5   4   5   4   6   6   4   0   2   2   0     48
 18      2   0   1   1   3   2   2   2   3   5       3  11   9   8  10  11  12   3   4   4   5   9   4     54
 19      7   3  11   9   4   7   2   2   2   4   4   4   4   7   7   4   3   1   4   1   0   0   0   0     43
 20      0   0   3   4   2   3   2   4   3   2   3   2   5   3   3  10   9  10   6   7   5   5   4   5     43
 21      3   1   3   3   3   1   2   5   3   6   3   1   8  11  10  11   6   5   5   5   4   4   5   6     55
 22      9   6   8   6   5   5   6   5   4   4   1   2   3   4   3   5   1   0   1   0   2   2   2   1     48
 23      2   4   3   3   3   2   3   3   3   3   2   4   2   5   7   7   6   7   2   2   1   2   2   1     44
 24      1   1   2   3   3   3   3   1   0   1   0   3   4   5   4   4   4   4   3  12   6   1   1   2     31
 25      4   4   2   2   2   3   4   1   3   2   3   2   8  12  13  13  13  11  12   4   2   4   5   5     61
 26      3   6   5   5   4   3   3   1   2   6  12  13  15  16  18  15  16  15  15  12   4   2   4   3     92
 27      5   3   4   3   5   5   5   2   2   5   5   8   6   7  12  12  14  13  13  10   3   2   2   2     73
 28      1   3   1   1   5   2   5   4   5   2   2   4   9  10   9   9  10  12  11   8   2   1   5   1     67
 29      1   1   0   4   2   4   6   5   6   3   2   4   3   6  10  12  11   5   2   4   2   2   0   1     46
 30      0   0   0   0   3   0   0   0   1   1   3   5   3   6   5   3   5   0   5   7   3   2   2   3     34
 31      2   4   1   4   5   2   2   3   5   3   4   3   6  10   7  10   7   6   3   6   6   7   6  11     61
 MEAN     5   5   5   5   5   5   5   5   5   5   7   7   8  10  10  10   9   8   8   7   5   5   5   5

                 TOTAL NUMBER OF OBSERVATIONS =  8840    MEAN  =      6.

           : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF BI-VANE WIND SPEED AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	15	13	13	12	15	6	5	5	5	4	19	21	20	18	20	22	21	17	22	20	21	18	17	19	16
2	20	22	20	19	20	23	23	18	19	20	20	18	19	19	21	21	15	15	17	14	12	27	26	18	20
3	20	15	15	12	9	9	12	14	16	16	22	25	19	22	17	18	9	4	13	5	8	9	19	17	15
4	17	12	10	6	6	5	3	7	6	4	6	9	10	9	7	6	6	2	3	5	1	1	1	1	6
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	2	2	1	3	3	1	1	2
6	1	1	1	1	1	1	1	1	1	1	1	1	3	4	5	7	9	7	4	3	1	1	1	5	3
7	2	5	6	7	7	5	9	8	9	3	7	13	16	18	19	20	9	9	8	4	3	8	7	5	9
8	6	3	2	3	1	3	3	3	3	3	3	3	4	5	7	6	7	10	9	8	8	8	6	5	5
9	5	4		3	1	1	1	1	1	1		1	1	1	3	7	15	20	21	9	5	9	9	4	6
10	5	8	13	6	6	8	14	17	18	22	23	17	17	18	15	18	14	12	13	10	5	6	6	2	13
11	5	1	4	8	8	6	1	1	1	2	1	2	3	5	6	5	7	10	8	3	7	3	1	1	5
12	1	5	4	6	7	5	4	5	11	7	14	13	15	23	22	17	7	4	9	5	3	4	4	3	9
13	4	4	1	2	1	4	2	1	1	2	4	4	7	4	9	5	2	2	4	4	3	3	1	1	4
14	0	0	0	0	0	5	3	3	5	0	0	2	2	5			7	4	2	3	3	7	10	7	3
15	10	15	11	17	19	20	17	15	16	16	17	18	13	9	8	6	3	3	8	8	4	2	7	4	12
16	6	8	15	15	6	3	8	8	5	6	11	5	1	6	4	5	1	2	1	4	5	4	2	1	6
17	1	5	11	8	5	3	8	11	11	3	4	4	4	4	3	4	3	6	7	4	1	3	3	1	5
18	1	1	1	1	2	1	2	3	5	4		2	10	9	8	10	12	17	4	1	2	3	13	5	6
19	7	4	14	10	3	6	2	2	1	2	3	3	3	7	6	3	3	1	2	1	1	1	1	1	4
20	1	1	1	2	3	1	2	8	7	3	2	2	5	2	3	10	10	12	4	6	2	2	2	5	4
21	3	1	3	3	2	2	1	4	2	8	2	1	8	11	11	12	7	4	5	6	4	2	3	6	5
22	9	5	9	6	6	6	7	7	5	4	1	3	3	3	2	4	1	1	1	1	3	2	1	1	4
23	1	2	2	1	1	1	1	2	1	2	1	2	1	4	6	7	5	6	3	1	1	1	1	1	3
24	1	1	1	3	1	2	1	1	2	2	1	2	3	5	4	3	4	5	3	12	11	6	3	2	4
25	1	1	1	2	4	1	1	1	1	1	3	2	8	12	13	13	14	13	14	6	3	1	2	3	5
26	5	3	3	5	3	7	4	3	3	7	13	12	15	16	18	16	18	18	18	15	4	3	2	3	10
27	4	9	6	2	3	4	8	4	2	6	5	8	7	8	12	12	15	13	16	13	5	4	1	4	8
28	3	6	3	3	5	5	4	4	7	2	1	4	8	9	9	8	9	12	11	9	3	1	4	2	6
29	1	1	1	4	3	3	2	2	6	2	2	4	2	6	10	12	11	7	4	5	3	1	2	1	4
30	1	1	1	1	2	1	1	1	1	1	3	4	3	6	4	3	4	1	2	5	7	7	5	6	3
31	4	4	2	2	1	3	2	1	1	2	2	3	6	10	7	10	7	7	1	4	6	7	8	12	5
MEAN	5	6	6	6	5	5	5	6	6	6	7	7	8	9	10	10	9	8	8	7	5	5	6	5	

TOTAL NUMBER OF OBSERVATIONS = 8840 MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	!
1	202	197	192	192	194	159	103	228	123	139	191	201	205	211	211	208	209	207	202	194	203	210	214	215	194	.42
2	199	203	212	198	197	200	197	202	199	203	199	199	199	208	204	202	196	194	187	189	179	192	181	171	196	.73
3	190	172	166	164	152	146	157	162	160	150	171	181	188	185	191	177	176	218	222	292	232	227	210	210	185	.44
4	210	209	218	234	222	218	204	205	216	239	277	290	276	278	245	198	218	17	124	309	161	163	207	297	228	77
5	310	259	201	212	224	155	212	140	142	283	360	10	349	331	296	296	292	286	261	273	286	271	264	224	268	28
6	170	238	190	203	164	163	237	195	231	138	49	256	221	199	198	206	196	170	104	158	262	241	139	111	190	39
7	70	116	113	129	150	162	144	120	146	172	201	203	215	217	205	198	196	171	134	108	133	144	138	113	154	91
8	104	123	127	87	88	144	149	179	271	271	284	282	325	302	299	333	304	326	301	295	295	299	283	275	288	75
9	312	291		276	245	218	239	169	159	137		89	64	89	60	205	204	196	197	168	130	208	193	105	181	51
10	98	130	165	107	116	128	181	188	188	193	196	194	193	192	189	195	193	181	181	142	117	131	108	106	160	!12
11	221	72	251	167	102	10	17	211	87	117	41	22	25	244	236	202	201	174	125	112	130	109	134	151	135	49
12	160	145	139	101	116	82	97	136	190	194	203	211	210	219	215	223	207	261	177	144	54	219	139	139	167	83
13	150	100	91	127	97	129	120	110	108	81	112	97	244	291	324	52	139	184	223	209	220	250	205	212	146	40
14	118	270	40	25	163	179	236	92	192	39	41	29	267	345			348	281	235	166	104	162	173	181	166	36
15	167	193	150	177	171	178	177	177	188	182	178	191	186	187	280	203	140	161	188	189	168	173	188	165	180	!11
16	158	153	189	194	162	137	182	197	150	145	219	248	257	175	147	336	296	180	139	242	252	232	215	144	189	52
17	211	155	205	115	97	128	155	170	171	75	103	106	77	76	120	115	130	139	130	135	233	85	271	257	135	48
18	340	246	215	242	261	184	222	181	207	101		64	215	244	209	207	196	197	61	117	110	126	169	88	184	54
19	164	101	184	176	88	146	343	91	99	98	65	15	334	307	286	338	19	153	189	230	202	46	13	213	104	43
20	193	9	215	148	155	142	140	143	73	55	32	4	237	236	258	205	204	201	83	140	120	125	176	132	154	43
21	133	331	80	119	224	105	176	176	123	159	66	21	214	217	217	229	215	136	153	151	171	171	197	210	171	55
22	218	191	196	157	111	119	114	135	132	97	95	217	210	200	110	41	340	312	255	232	261	285	300	312	186	48
23	308	312	318	320	317	315	315	305	305	303	288	359	332	47	10	9	336	313	321	251	178	207	321	237	313	44
24	52	141	215	230	171	185	131	169	132	88	48	324	39	20	13	31	9	348	245	234	197	103	93	81	93	31
25	117	113	167	194	138	133	182	47	131	123	41	348	229	213	219	223	206	200	194	137	88	93	128	124	151	61
26	138	120	132	135	107	100	91	81	79	176	190	192	202	200	209	203	200	202	201	175	94	100	109	103	148	92
27	134	124	124	102	131	147	134	105	102	191	207	215	219	235	204	209	219	213	202	186	116	106	148	160	164	73
28	72	155	73	153	192	117	142	144	218	96	140	297	301	295	295	255	225	209	204	191	99	171	203	100	173	67
29	183	145	27	195	84	117	115	163	164	103	40	3	51	10	2	20	8	14	338	126	243	245	116	13	72	46
30	285	231	201	15	214	312	195	149	12	152	67	44	49	15	4	48	19	357	201	204	124	107	105	127	85	34
31	118	153	118	137	154	222	151	141	91	64	19	4	240	207	219	204	197	176	131	157	125	116	131	163	150	61
MEAN	152	157	166	163	155	151	163	157	152	136	94	313	238	232	233	216	217	207	186	183	165	168	173	160		

TOTAL NUMBER OF OBSERVATIONS = 8805 MEAN = 174.

! INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	190	180	187	191	188	164	149	242	123	145	192	202	205	211	211	210	210	208	202	200	205	210	201	200	194
2	201	203	208	196	197	200	198	202	199	202	199	198	199	208	204	202	197	195	188	190	186	194	181	171	196
3	178	171	166	164	159	147	160	163	161	152	171	179	186	184	190	176	176	216	220	290	226	223	209	209	184
4	214	214	221	235	230	233	218	211	223	235	277	288	279	275	244	199	215	356	88	303	158	144	180	287	232
5	287	243	258	171	215	89	205	149	230	259	295	340	302	297	298	299	298	295	269	281	291	282	280	267	271
6	132	232	316	111	126	122	223	208	236	119	37	260	223	203	199	205	195	171	90	185	336	49	140	158	176
7	156	160	137	146	152	166	156	139	155	166	196	202	211	212	202	196	197	178	149	115	145	154	142	125	165
8	149	126	137	112	77	122	139	163	272	276	291	299	318	310	311	315	312	313	305	300	300	306	296	287	297
9	295	281		276	251	213	261	117	132	119		62	68	51	53	199	198	188	189	176	132	184	173	119	171
10	127	149	178	141	141	163	186	188	187	188	194	193	192	190	187	192	193	184	187	177	155	178	135	114	172
11	164	82	190	183	183	193	355	70	85	96	20	25	349	235	226	195	195	173	141	120	136	110	119	142	141
12	151	148	122	137	131	106	130	151	186	185	197	206	204	212	209	216	213	251	176	157	44	242	151	165	173
13	182	137	103	144	105	125	145	135	145	95	115	113	241	267	303	43	133	191	232	214	232	257	196	244	166
14	51	359	27	350	21	125	169	129	168	320	35	14	251	304			303	283	230	176	140	194	186	190	224
15	183	189	173	176	170	175	177	182	185	179	177	191	185	177	272	215	140	166	191	193	192	175	206	183	184
16	166	164	187	193	164	153	193	205	179	153	215	205	250	175	144	318	272	189	189	265	278	266	239	148	200
17	195	195	198	187	159	136	186	182	182	123	103	100	81	68	115	111	101	136	129	115	141	42	337	287	137
18	295	198	170	243	270	116	183	173	167	124		21	212	201	207	210	200	199	103	120	116	130	186	128	175
19	178	161	200	194	119	155	311	65	76	83	61	358	293	292	292	300	11	72	140	207	44	344	37	97	73
20	101	86	212	168	161	138	166	176	179	112	30	310	241	245	238	202	201	195	88	141	119	116	168	139	162
21	163	196	55	97	213	125	118	139	119	146	77	1	207	214	212	223	211	187	153	145	177	157	190	209	165
22	208	240	195	158	116	124	126	140	133	105	110	190	185	177	97	19	317	289	207	218	240	261	279	292	181
23	288	294	301	303	302	299	297	287	285	284	270	303	305	313	327	324	305	305	321	270	316	339	302	304	301
24	3	90	164	276	147	181	125	163	190	100	32	296	8	363	308	307	309	313	259	198	194	168	124	99	181
25	83	89	103	165	170	90	142	149	124	119	20	270	227	215	218	221	207	204	195	165	142	99	127	126	154
26	165	166	137	155	126	162	148	146	122	181	197	198	208	207	214	208	205	208	209	182	113	136	117	114	168
27	145	198	167	121	138	157	178	151	124	192	211	219	219	232	209	216	220	214	203	196	161	176	139	167	182
28	136	181	174	127	185	181	130	142	184	79	5	277	290	275	269	258	227	212	201	200	127	140	210	168	188
29	163	184	102	178	154	123	117	150	185	70	20	303	225	319	319	330	333	330	331	65	149	234	222	351	175
30	339	208	237	234	216	351	193	87	291	153	76	32	3	335	342	37	15	331	162	173	174	184	169	170	207
31	153	143	127	119	120	173	249	129	120	99	15	65	232	207	216	203	197	183	134	152	134	119	144	159	152
MEAN	168	175	171	171	163	150	172	158	168	143	102	255	236	237	234	228	221	216	184	186	165	179	180	171	

TOTAL NUMBER OF OBSERVATIONS = 8832 MEAN = 183.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN CORPORATION

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	199	196	196	201	196	186	187	240	144	165	199	208	210	216	217	215	214	212	207	205	210	215	207	208	202 42
2	208	209	208	204	203	206	204	207	205	206	204	202	201	209	208	207	203	202	197	199	198	200	190	182	202 73
3	182	175	171	171	165	157	167	169	167	159	175	182	193	191	196	185	185	216	226	286	230	227	215	215	190 44
4	215	215	222	232	234	250	238	221	229	239	278	289	280	278	250	208	218	6	93	300	5	112	113	295	245 77
5	320	268	303	155	233	127	194	140	197	238	255	293	286	289	284	303	302	297	276	288	297	295	308	316	273 28
6	198	249	337	106	118	119	194	9	347	127	50	224	221	205	204	208	198	183	111	217	322	106	164	184	178 39
7	197	186	162	168	170	177	172	163	172	173	203	205	215	217	209	203	206	193	169	140	166	169	151	140	180 91
8	120	136	144	118	167	116	128	150	270	274	288	302	320	310	314	319	312	320	307	303	302	308	305	295	290 75
9	291	281		278	267	215	280	103	128	131		77	109	44	58	179	204	197	198	190	162	190	192	176	184 51
10	160	171	195	175	175	191	195	196	195	195	200	199	198	197	194	198	241	194	198	200	192	201	181	182	191 12
11	200	196	203	205	207	194	161	85	309	105	52	32	279	245	229	202	203	188	160	142	152	126	127	126	175 49
12	151	162	157	175	168	143	163	182	192	194	201	209	206	216	212	218	213	241	195	190	244	248	173	203	194 83
13	167	170	162	169	117	134	176	172	164	116	118	115	225	261	303	42	143	189	229	216	230	334	110	251	173 40
14	268	279	137	319	5	127	133	144	149	259	98	279	228	300			312	297	237	193	189	203	205	203	223 36
15	199	198	190	188	181	187	190	194	195	187	185	196	195	201	273	224	152	185	208	215	216	193	220	205	198 11
16	187	185	196	203	193	200	220	223	213	174	219	208	236	185	141	332	236	190	215	284	298	292	272	226	218 52
17	199	216	210	201	193	172	243	198	195	171	132	119	83	78	125	129	117	139	133	93	68	47	360	47	142 48
18	217	108	119	40	251	139	184	181	168	143		47	217	207	212	211	200	202	185	142	136	145	197	175	173 54
19	188	188	206	197	153	157	259	41	112	54	68	14	326	300	298	306	360	65	122	131	248	209	225	139	175 43
20	161	133	196	190	194	169	193	198	201	201	51	276	258	253	243	206	205	206	86	143	122	75	147	164	183 43
21	212	281	51	104	212	210	110	129	129	151	128	319	210	219	217	225	215	198	169	163	195	177	202	219	186 55
22	215	212	204	171	128	135	141	148	140	119	149	183	176	171	106	40	298	206	199	218	225	244	263	291	183 48
23	281	272	285	295	292	286	286	276	267	261	251	297	289	315	332	324	304	311	328	281	344	333	299	321	297 44
24	335	80	144	265	156	178	131	170	190	160	167	281	4	339	319	328	319	329	278	210	204	209	192	192	220 31
25	127	110	61	170	191	92	144	173	132	149	35	255	227	219	223	223	213	214	206	198	198	105	126	142	169 51
26	200	188	156	181	175	197	190	193	176	190	198	199	208	207	214	208	206	208	211	190	154	180	143	164	189 92
27	170	207	197	169	153	177	197	187	187	198	213	220	219	230	210	217	221	215	206	205	186	193	189	193	198 73
28	192	208	233	196	201	198	155	173	201	142	13	268	285	273	267	256	226	216	220	219	166	159	231	226	213 57
29	144	171	177	176	176	138	113	137	194	95	40	309	302	344	328	352	352	359	351	58	109	222	238	235	148 46
30	258	216	215	240	210	290	209	124	254	154	68	26	360	341	334	23	352	354	156	178	207	205	204	201	231 34
31	187	178	156	155	140	171	190	142	141	136	30	133	206	213	221	209	201	195	158	163	155	142	163	170	169 51
MEAN	198	196	183	187	166	172	162	170	185	169	156	238	235	241	237	231	225	217	196	198	199	193	195	200	

TOTAL NUMBER OF OBSERVATIONS = 0839 MEAN = 198.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN CORPORATION

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	4	6	2	2	0	0	3	4	0	12	10	10	9	8	8	7	5	6	7	6	5	3	4	6
2	3	4	3	2	2	2	2	2	4	4	5	4	6	6	7	7	6	5	5	4	5	9	7	6	5
3	4	3	4	2	2	3	3	4	5	5	6	4	6	7	5	6	4	-3	4	2	2	2	1	0	4
4	0	0	0	0	-1	0	0	0	1	0	5	5	4	3	1	3	4	32	39	40	49	44	47	50	13
5	50	50	50	49	49	50	50	50	50	50	50	50	50	50	50	47	49	50	50	50	50	50	50	50	50
6	50	50	50	50	50	50	50	50	50	50	50	49	47	45	39	31	29	40	38	45	50	49	48	49	46
7	49	47	45	41	30	35	33	37	36	43	35	26	24	22	21	21	17	16	16	15	12	15	13	9	28
8	13	9	7	9	12	12	13	14	6	10	13	7	17	18	20	18	19	21	19	18	18	18	20	21	15
9	27	34		42	47	50	50	49	49	49		48	44	30	17	12	21	20	20	12	9	7	2	0	30
10	4	7	6	5	4	3	6	7	8	11	13	13	14	14	13	14	12	10	10	3	4	1	8	10	9
11	2	0	4	6	2	8	6	3	6	15	16	20	10	14	18	18	19	23	19	20	22	20	19	18	13
12	13	18	20	21	23	24	13	13	19	20	25	25	27	28	27	25	15	14	23	22	14	17	20	16	20
13	12	19	23	16	19	21	11	4	-1	18	21	25	31	21	30	28	18	19	23	25	18	24	24	18	20
14	15	0	-1	20	35	41	47	49	49	49	44	24	15	23			24	13	5	14	8	0	5	9	22
15	11	14	8	17	18	17	16	15	15	17	18	18	14	13	14	7	9	9	9	5	4	6	6	7	12
16	10	8	9	7	3	7	5	9	9	10	13	8	-1	14	11	29	48	48	49	46	43	37	40	46	22
17	35	47	45	42	46	35	40	32	32	45	35	27	28	21	17	17	16	16	15	11	5	8	4	6	27
18	12	12	3	10	5	3	6	1	2	7		4	19	19	19	20	20	20	14	16	18	18	16	20	13
19	18	9	17	16	21	22	11	2	6	10	9	9	9	16	15	9	10	2	12	9	-9	-12	-9	0	9
20	-7	-11	17	10	9	9	3	6	0	5	8	1	9	3	0	15	13	11	13	13	9	9	5	8	7
21	0	0	-2	7	5	-1	2	7	4	13	9	6	20	25	22	23	18	17	20	16	16	19	18	22	12
22	22	15	18	17	28	40	39	34	39	46	49	45	44	42	42	34	48	50	50	50	50	50	50	50	40
23	50	50	50	50	50	50	50	50	50	50	50	50	50	48	45	45	48	49	50	50	50	50	50	50	49
24	50	50	50	50	47	50	50	50	50	50	50	50	47	41	45	44	47	46	35	21	40	47	44	39	46
25	40	40	36	41	45	37	40	49	45	49	40	44	19	14	12	11	11	10	10	4	6	10	7	7	27
26	2	4	7	0	7	2	7	11	11	11	13	15	17	16	16	15	15	14	12	12	8	2	7	4	10
27	7	-4	1	11	11	10	5	9	14	13	12	17	16	18	21	19	19	16	15	8	0	0	4	0	10
28	-5	-3	-4	-10	3	-8	9	5	2	6	2	10	20	23	22	20	20	20	18	13	4	-1	15	-3	7
29	8	0	-5	11	6	10	17	16	17	15	9	17	11	23	31	34	33	26	2	17	10	22	2	2	14
30	4	10	5	4	15	7	1	0	4	0	13	21	16	27	24	20	32	3	27	26	10	5	21	22	14
31	33	37	26	42	39	36	23	34	36	31	38	29	28	37	35	38	34	32	26	34	30	30	28	31	33
MEAN	18	17	17	20	21	20	20	20	21	23	23	22	22	23	22	22	23	22	21	21	18	18	19	19	

TOTAL NUMBER OF OBSERVATIONS = 8820 MEAN = 20.

: INDICATES CALIBRATION DURING THE HOUR

RADIAN
CORPORATION

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-9	-9	-9	-10	-9	-18	-18	-19	-17	-22	-9	-8	-8	-8	-8	-8	-8	-8	-8	-8	-6	-5	-7	-7	-12
2	-8	-8	-7	-7	-7	-9	-9	-9	-8	-9	-8	-8	-8	-7	-6	-6	-7	-7	-7	-7	-9	-6	-6	-7	-9
3	-6	-7	-7	-7	-9	-9	-7	-7	-7	-8	-7	-6	-6	-6	-6	-7	-8	-18	-9	-11	-10	-9	-7	-7	-10
4	-7	-8	-8	-11	-12	-12	-15	-8	-9	-13	-10	-8	-7	-6	-8	-7	-9	-19	-23	-15	-40	-31	-38	-38	-16
5	-39	-38	-38	-37	-35	-39	-40	-39	-40	-40	-40	-40	-40	-40	-40	-24	-27	-37	-40	-40	-40	-39	-41	-41	-40
6	-42	-42	-42	-42	-42	-42	-42	-42	-42	-42	-42	-40	-35	-29	-23	-14	-14	-22	-21	-31	-39	-42	-35	-34	-37
7	-39	-32	-20	-18	-15	-18	-17	-19	-14	-23	-15	-9	-7	-7	-6	-8	-10	-11	-12	-16	-17	-13	-14	-17	-17
8	-15	-17	-18	-22	-23	-17	-15	-15	-19	-17	-15	-20	-14	-11	-10	-10	-10	-10	-10	-10	-11	-12	-16	-16	-16
9	-16	-22		-33	-44	-44	-44	-44	-44	-44		-44	-42	-35	-24	-20	-9	-9	-9	-13	-17	-13	-14	-22	-29
10	-17	-13	-11	-17	-16	-15	-8	-7	-8	-8	-7	-8	-7	-8	-8	-8	-9	-9	-9	-13	-18	-22	-18	-28	-14
11	-24	-36	-29	-22	-25	-24	-32	-41	-37	-21	-27	-23	-21	-15	-13	-11	-13	-12	-14	-16	-13	-9	-12	-16	-23
12	-20	-15	-15	-15	-13	-15	-19	-14	-12	-13	-8	-9	-9	-8	-8	-9	-14	-21	-14	-20	-27	-20	-16	-23	-16
13	-20	-21	-28	-24	-26	-15	-31	-40	-42	-23	-14	-17	-12	-20	-11	-16	-23	-26	-19	-15	-19	-26	-30	-31	-24
14	-44	-44	-44	-41	-44	-21	-33	-36	-31	-37	-37	-22	-22	-15			-13	-21	-29	-19	-29	-21	-16	-18	-30
15	-14	-10	-16	-8	-9	-8	-9	-9	-9	-8	-8	-8	-6	-9	-8	-12	-14	-13	-10	-11	-13	-15	-10	-11	-12
16	-9	-9	-6	-5	-18	-20	-17	-11	-15	-12	-9	-13	-27	-11	-15	-21	-39	-31	-42	-24	-18	-22	-28	-39	-21
17	-28	-19	-16	-27	-38	-22	-19	-10	-13	-31	-19	-14	-18	-13	-21	-15	-16	-14	-15	-18	-37	-26	-28	-37	-23
18	-25	-37	-32	-39	-24	-29	-30	-25	-24	-15		-22	-8	-10	-7	-7	-7	-6	-22	-19	-17	-14	-13	-17	-21
19	-12	-23	-11	-12	-22	-11	-25	-25	-26	-20	-17	-22	-24	-12	-14	-21	-18	-34	-15	-29	-42	-39	-40	-38	-25
20	-42	-42	-20	-17	-27	-24	-28	-21	-22	-27	-17	-27	-15	-22	-21	-10	-11	-10	-15	-11	-16	-17	-17	-14	-22
21	-23	-33	-23	-22	-23	-34	-26	-16	-25	-9	-21	-29	-9	-10	-11	-10	-13	-15	-13	-14	-17	-18	-15	-13	-20
22	-11	-12	-11	-12	-16	-16	-14	-14	-18	-22	-39	-28	-25	-21	-24	-16	-38	-42	-39	-42	-35	-38	-42	-42	-27
23	-42	-40	-42	-42	-42	-42	-42	-42	-42	-42	-42	-40	-42	-26	-17	-17	-21	-19	-34	-42	-42	-42	-42	-42	-39
24	-41	-41	-39	-38	-35	-37	-39	-43	-42	-43	-43	-35	-26	-21	-24	-21	-23	-21	-29	-14	-19	-35	-37	-35	-34
25	-26	-24	-35	-33	-35	-29	-26	-38	-30	-35	-28	-31	-15	-14	-13	-13	-14	-13	-13	-23	-26	-23	-21	-18	-26
26	-29	-16	-17	-17	-20	-24	-25	-32	-29	-21	-14	-14	-13	-12	-13	-13	-13	-11	-10	-12	-20	-29	-24	-25	-20
27	-20	-25	-21	-25	-18	-18	-23	-30	-29	-19	-20	-15	-18	-18	-16	-14	-13	-13	-15	-16	-23	-30	-30	-27	-22
28	-34	-26	-34	-35	-19	-29	-20	-21	-20	-29	-29	-22	-17	-16	-15	-15	-15	-14	-15	-17	-30	-34	-18	-37	-25
29	-35	-35	-40	-22	-31	-20	-20	-19	-23	-25	-25	-22	-26	-20	-17	-17	-16	-18	-29	-22	-32	-29	-35	-4	-26
30	-38	-37	-40	-40	-24	-37	-41	-40	-33	-32	-25	-17	-24	-17	-21	-26	-19	-36	-18	-17	-30	-28	-33	-25	-31
31	-30	-22	-37	-20	-18	-29	-32	-27	-19	-27	-22	-23	-20	-15	-17	-15	-15	-16	-25	-17	-17	-16	-16	-12	-23
MEAN	-26	-26	-25	-25	-25	-25	-26	-26	-26	-25	-23	-22	-20	-17	-16	-15	-17	-19	-20	-20	-25	-25	-25	-25	

TOTAL NUMBER OF OBSERVATIONS = 8840 MEAN = -23.

: INDICATES CALIBRATION DURING THE HOUR

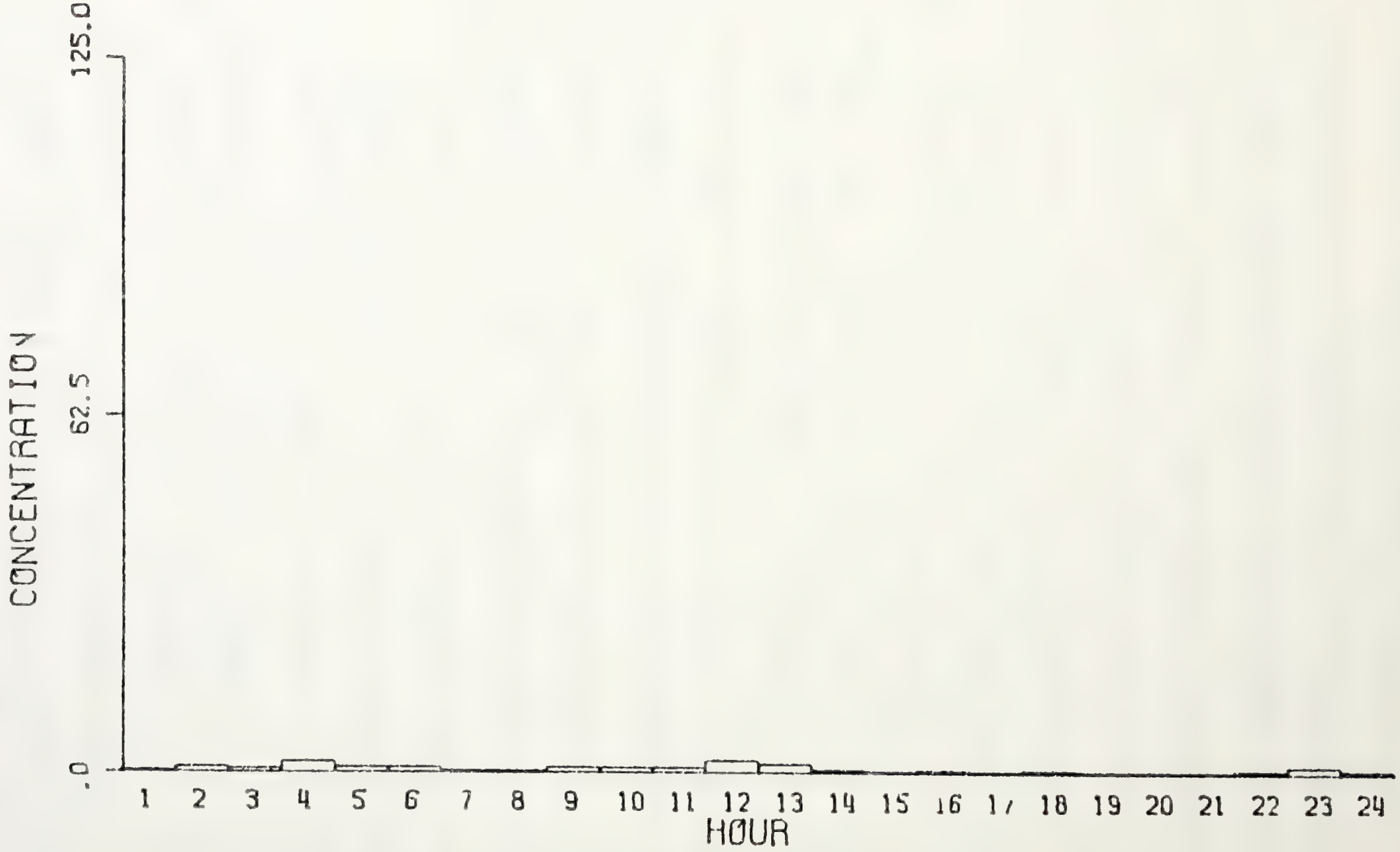
RADIAN CORPORATION

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(1/ 1/77 TO 1/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-13	-13	-14	-14	-14	-10	-4	-7	-9	-4	-12	-12	-14	-16	-16	-14	-15	-16	-16	-13	-11	-11	-9	-7	-13
2	-7	-7	-7	-7	-8	-9	-9	-10	-9	-9	-8	-8	-7	-7	-7	-7	-7	-6	-6	-4	-3	-7	-7	-6	-9
3	-6	-7	-8	-6	-7	-7	-10	-9	-9	-8	-8	-6	-5	-6	-5	-6	-4	-3	-6	-4	-7	-10	-14	-15	-9
4	-17	-17	-16	-14	-16	-15	-14	-16	-17	-11	-12	-10	-11	-14	-14	-16	-15	-19	-21	-16	-43	-39	-45	-44	-21
5	-44	-37	-39	-23	-30	-36	-33	-22	-29	-25	-28	-37	-28	15	27	-30	-32	-4	36	49	-14	-1	22	50	-13
6	50	50	50	50	50	50	50	50	50	50	50	42	5	-4	-12	-21	-16	-8	-10	-8	0	50	-1	-16	22
7	-15	-17	-18	-15	-14	-17	-15	-15	-12	-14	-12	-7	-7	-7	-6	-7	-4	-6	-6	-7	-6	-7	-8	-8	-12
8	-9	-3	-4	-5	0	-6	-7	-6	-6	-5	-5	-2	-4	-1	-4	-1	-5	-5	-6	-6	-6	-8	-12	-12	-7
9	-14	-17		-20	-40	-41	-40	-42	-42	-42		16	41	-9	-17	-13	-8	-7	-7	-2	-5	-1	-3	-4	-16
10	-5	-7	-4	-5	-7	-4	-4	-6	-6	-7	-7	-7	-7	-7	-6	-7	-7	-3	-6	-5	-3	-4	-3	-3	-7
11	-4	2	-4	-5	-5	-2	0	4	3	-1	-2	0	4	0	-6	-4	-4	-7	-7	-7	-8	-8	-5	-2	-4
12	0	-6	-6	-5	-5	-5	-5	-4	-5	-7	-3	-5	-4	-5	-5	-5	-1	-3	-3	-6	0	-2	-5	-2	-5
13	-1	-4	1	-2	-1	-6	-2	0	0	-2	0	-5	-2	-5	-2	-1	-4	-4	-5	-5	-2	-1	-5	-7	-4
14	-15	-22	-32	-35	1	-13	-17	-21	-14	-26	-24	-6	-5	-4			-3	-2	-2	-5	-3	-6	-6	-7	-14
15	-5	-7	-5	-6	-7	-6	-7	-5	-6	-4	-4	-7	-3	-1	-1	-2	-2	-5	-7	-8	-4	-2	-6	-3	-6
16	-5	-6	-7	-6	-5	-3	-6	-6	-4	-6	-5	-3	3	-7	-1	-2	-23	-27	-29	-15	-10	-11	-20	-33	-11
17	-26	-9	-5	-6	-5	-5	-7	-6	-6	-2	-2	-3	-2	0	-2	-4	-3	-7	-8	-3	4	0	0	2	-6
18	3	-1	0	0	0	0	-3	-5	-4	-3		0	-4	-4	-4	-5	-4	-7	0	0	-1	-5	-5	-4	-4
19	-6	-3	-7	-6	-4	-7	0	0	0	-2	0	-2	-5	-4	-4	-2	0	0	-2	0	2	5	2	1	-3
20	4	0	-1	-3	-2	0	-2	-4	0	0	5	0	0	0	1	-7	-6	-6	-3	-6	-4	-4	-1	-6	-3
21	0	2	-1	-2	-1	3	0	-4	-3	-6	1	0	-4	-7	-6	-6	-8	-9	-10	-10	-5	-3	-6	-10	-5
22	-11	-6	-10	-9	-10	-9	-7	-9	-10	-10	-21	-13	-15	-14	-10	-9	13	30	31	44	-25	4	49	45	-0
23	50	24	-1	43	50	43	50	49	49	49	50	33	50	-1	-24	-25	-25	-24	11	50	50	44	45	47	29
24	42	50	50	18	50	20	46	49	20	25	49	19	-9	-19	-16	-15	-15	-11	-16	-10	-7	-7	-11	-12	12
25	-23	-23	-26	-17	-14	-27	-23	0	-22	-26	-17	-7	-5	-7	-5	-5	-7	-6	-8	-5	-1	-1	-3	-4	-13
26	-3	-6	-7	-6	-4	-5	-5	-4	-5	-6	-7	-6	-6	-6	-6	-6	-7	-7	-7	-7	-3	-3	-2	0	-7
27	-4	-4	-5	-3	-6	-8	-5	-5	-8	-7	-7	-6	-5	-3	-7	-5	-6	-5	-7	-7	-4	0	0	-5	-7
28	0	-4	-2	-2	-5	-3	-6	-6	-6	0	2	-1	-5	-4	-2	-2	-6	-7	-9	-7	0	0	-5	0	-5
29	1	3	0	-5	-4	-6	-6	-4	-5	-2	0	-1	0	-1	-3	-5	-4	-3	0	-2	-2	0	0	0	-3
30	3	2	0	1	-2	2	1	0	2	0	-1	-2	-2	0	-3	-1	-2	3	-4	-6	-6	-4	-3	-4	-2
31	-3	-2	0	-3	-2	-0	-1	0	-2	-5	-2	1	-3	-7	-6	-8	-6	-7	-3	-8	-10	-12	-10	-7	-6
MEAN	-4	-4	-6	-5	-3	-5	-4	-3	-5	-5	-2	-3	-3	-6	-7	-10	-9	-7	-6	-2	-6	-3	-4	-4	

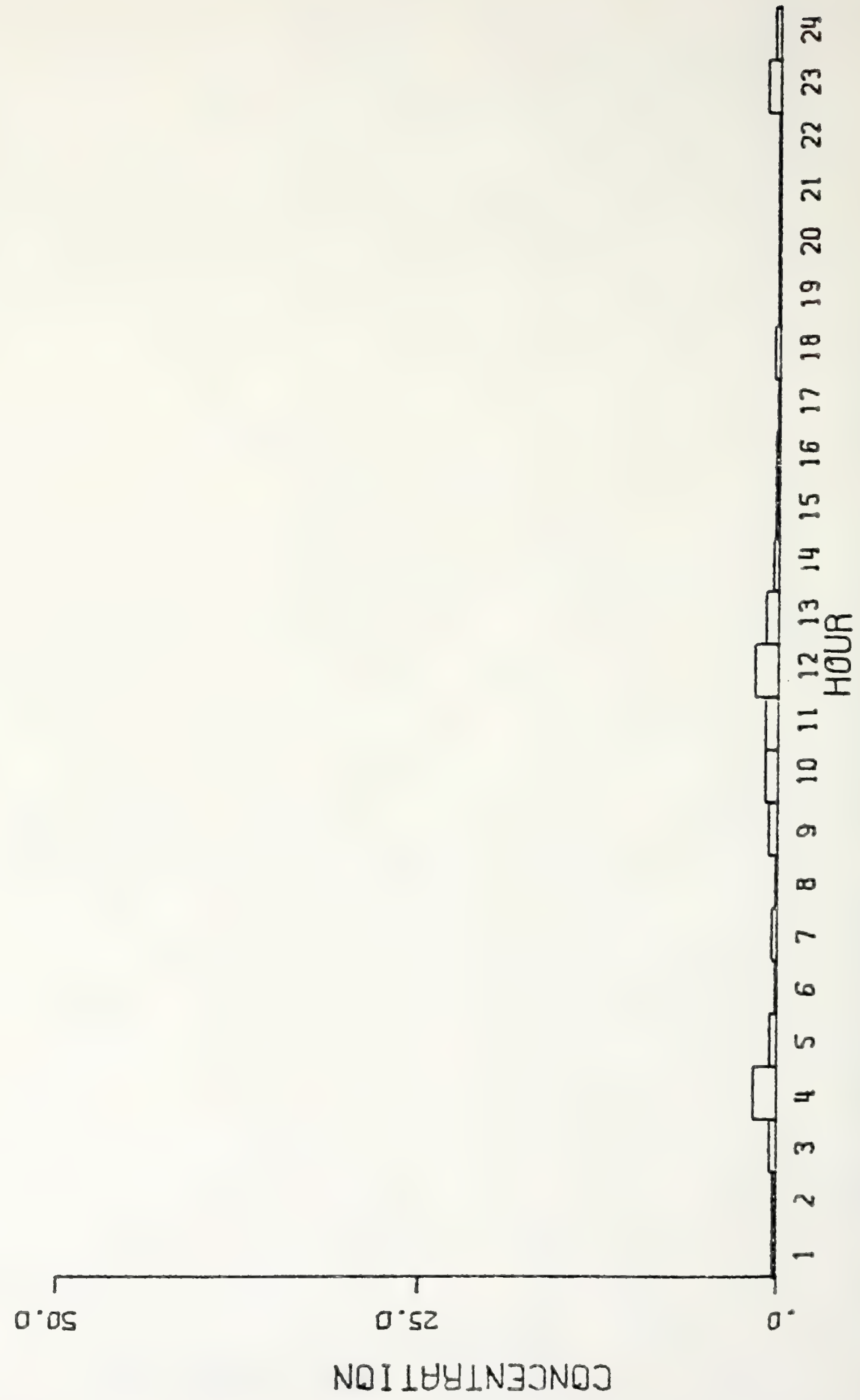
TOTAL NUMBER OF OBSERVAITONS = 8749   MEAN = -5.

: INDICATES CALIBRATION DURING THE HOUR

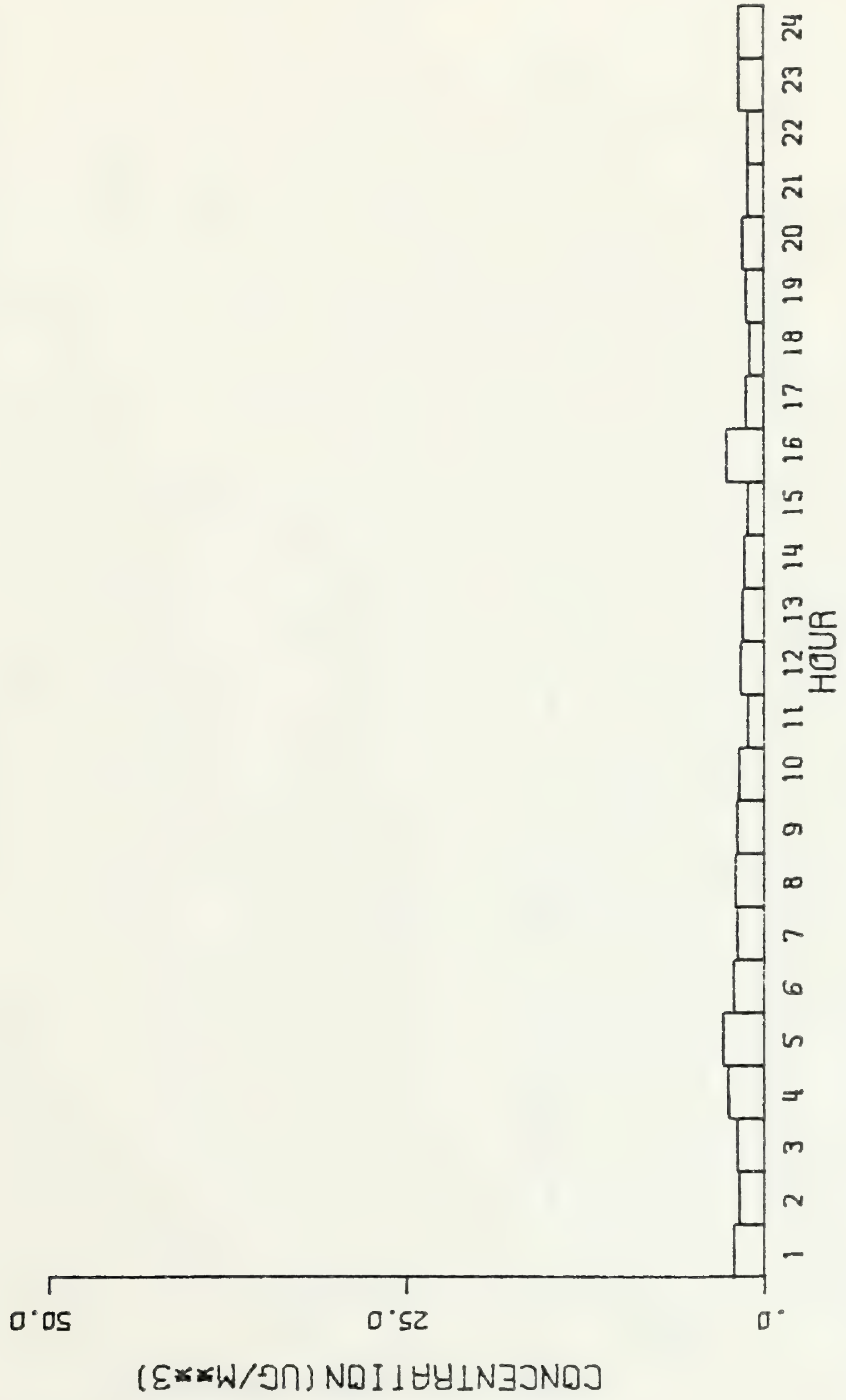


DIURNAL VARIATION OF NITROGEN OXIDES(UG/M**3)
SITE - 23

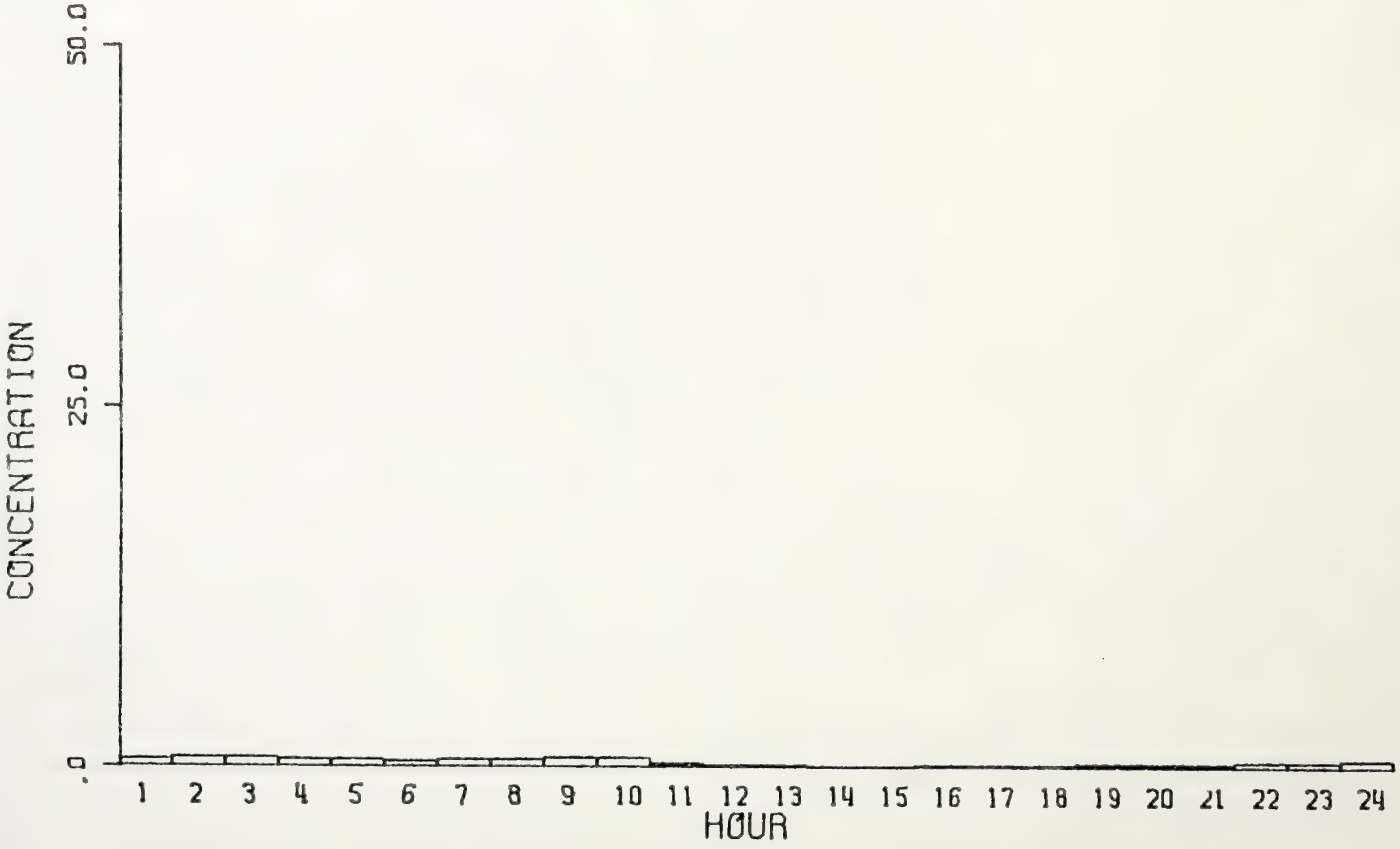
DIURNAL VARIATION OF NITRIC OXIDE (UG/M**3)
SITE - 23



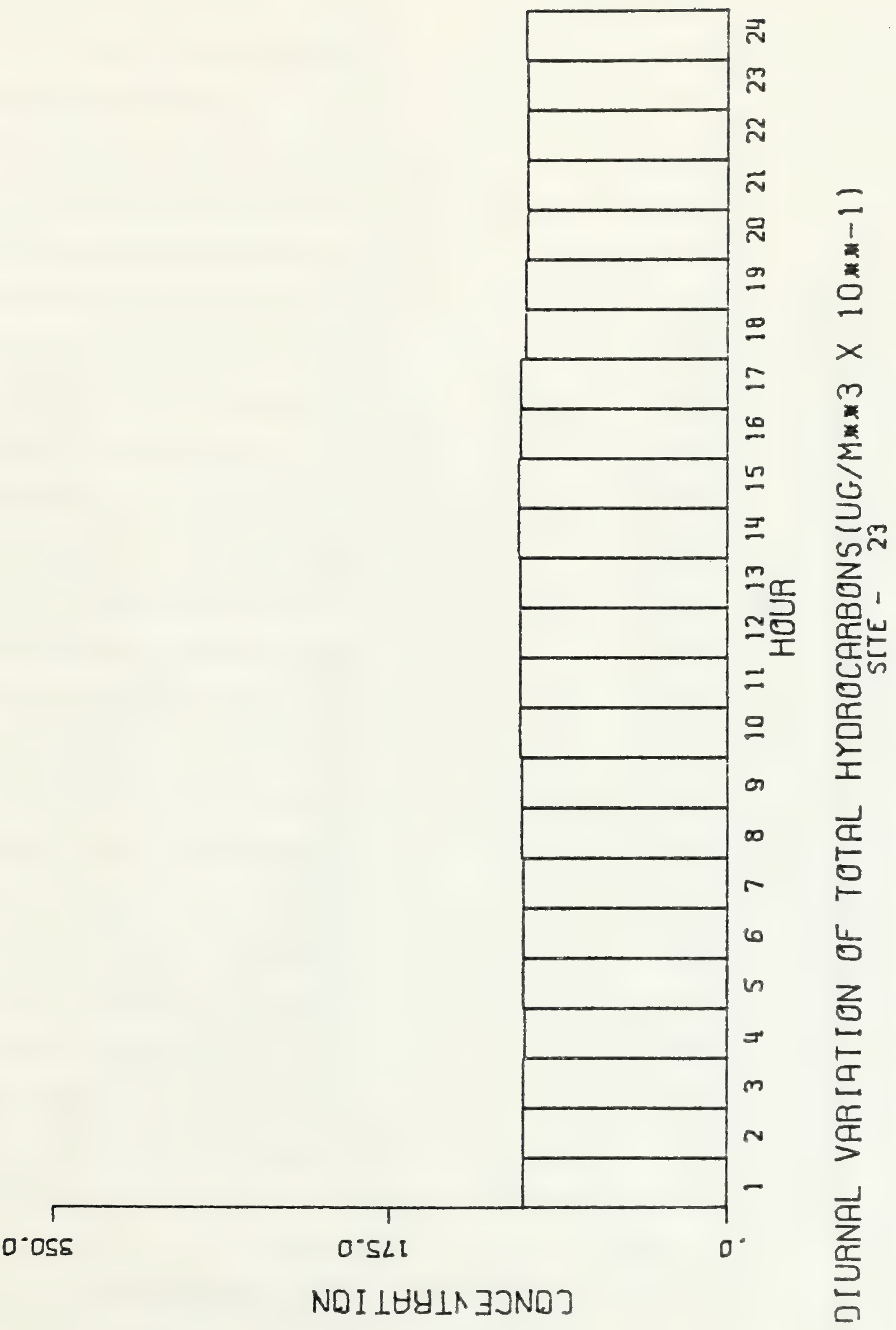
DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M**3)
SITE - 23



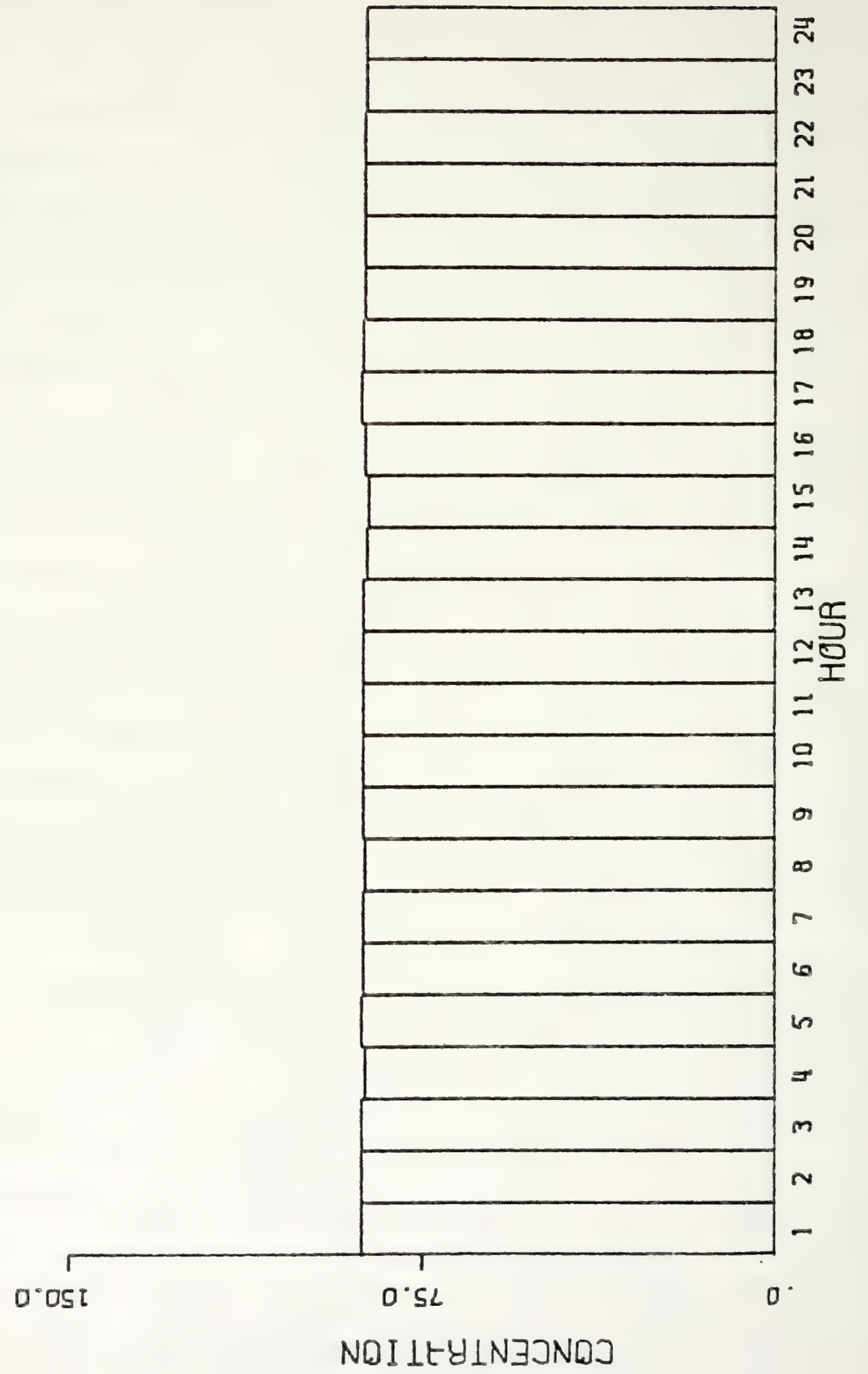
DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M**3)
SITE 23



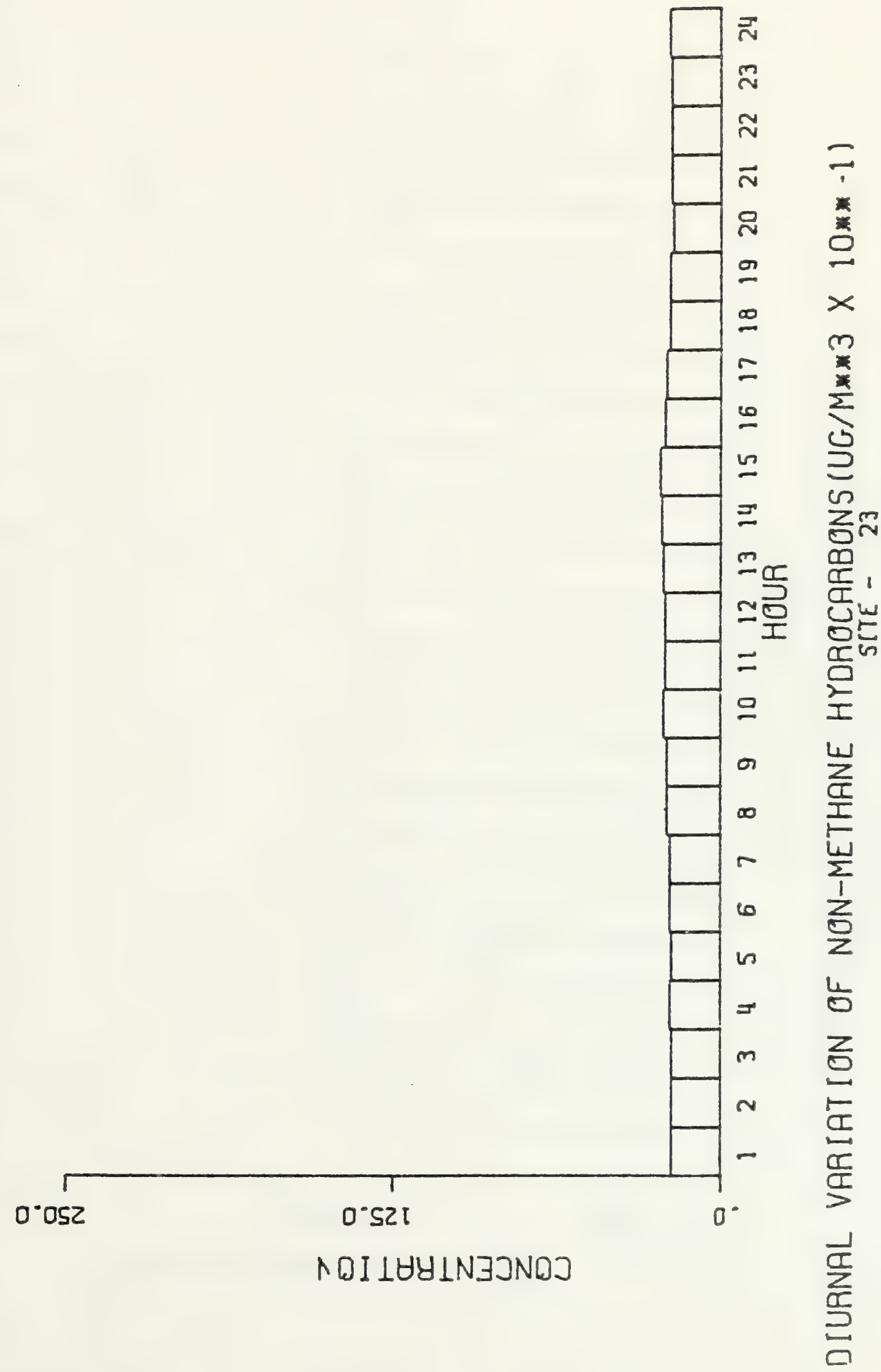
DIURNAL VARIATION OF HYDROGEN SULFIDE(UG/M**3)
SITE - 23



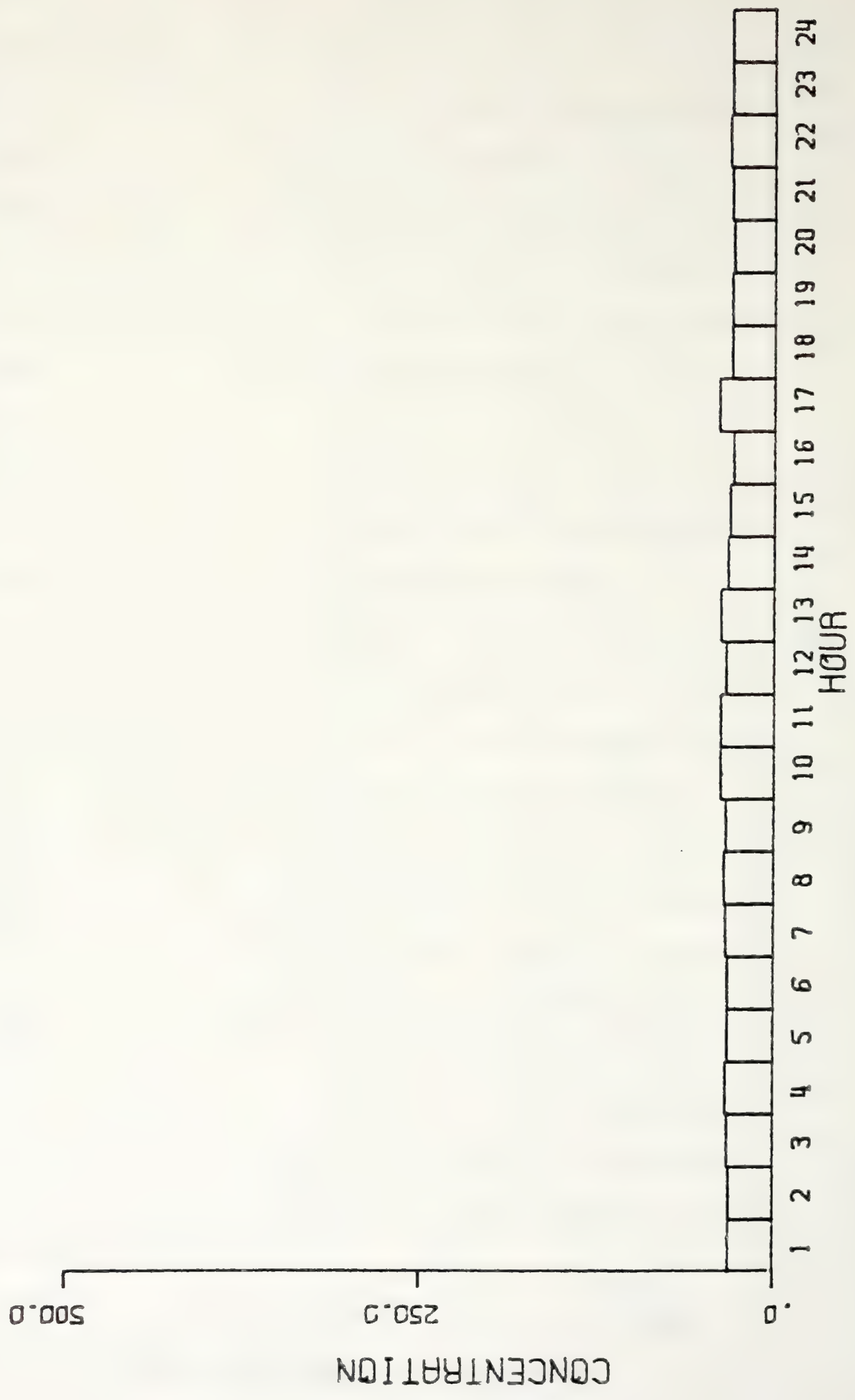
DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M**3 X 10**-1)
SITE - 23



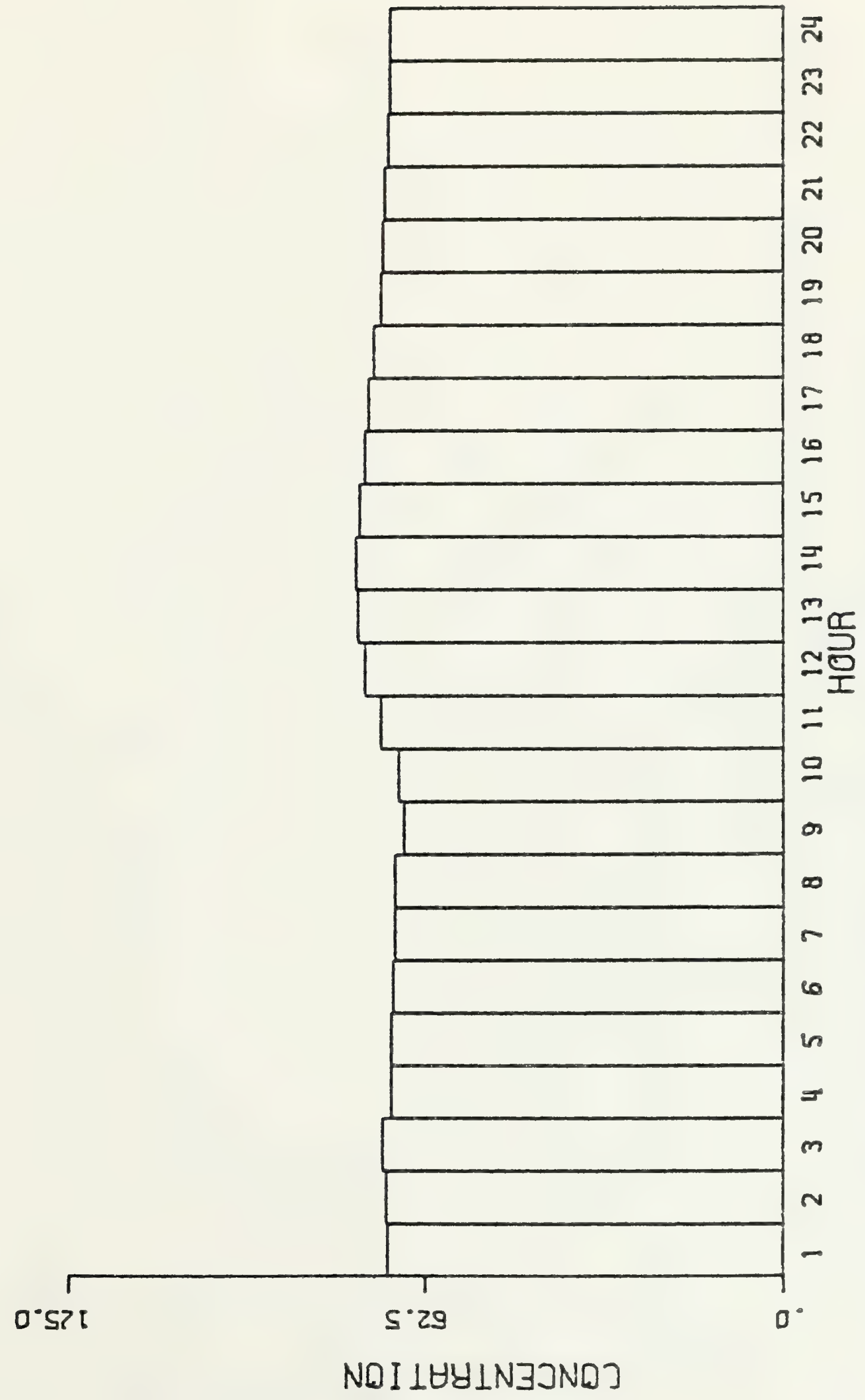
DIURNAL VARIATION OF METHANE (UG/M**3 X 10**-1)
SITE - 23



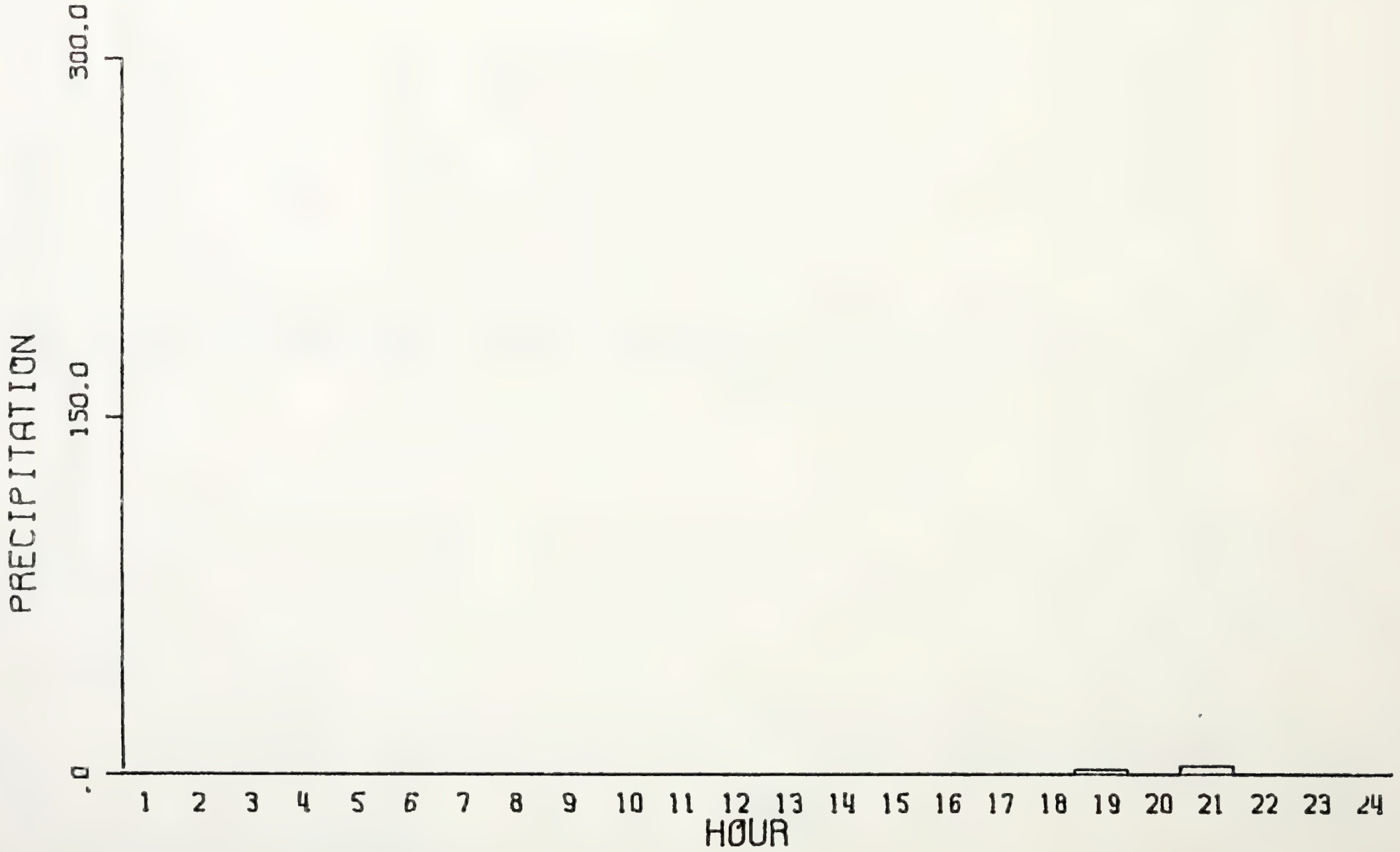
DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M**3 X 10** -1)
SITE - 23



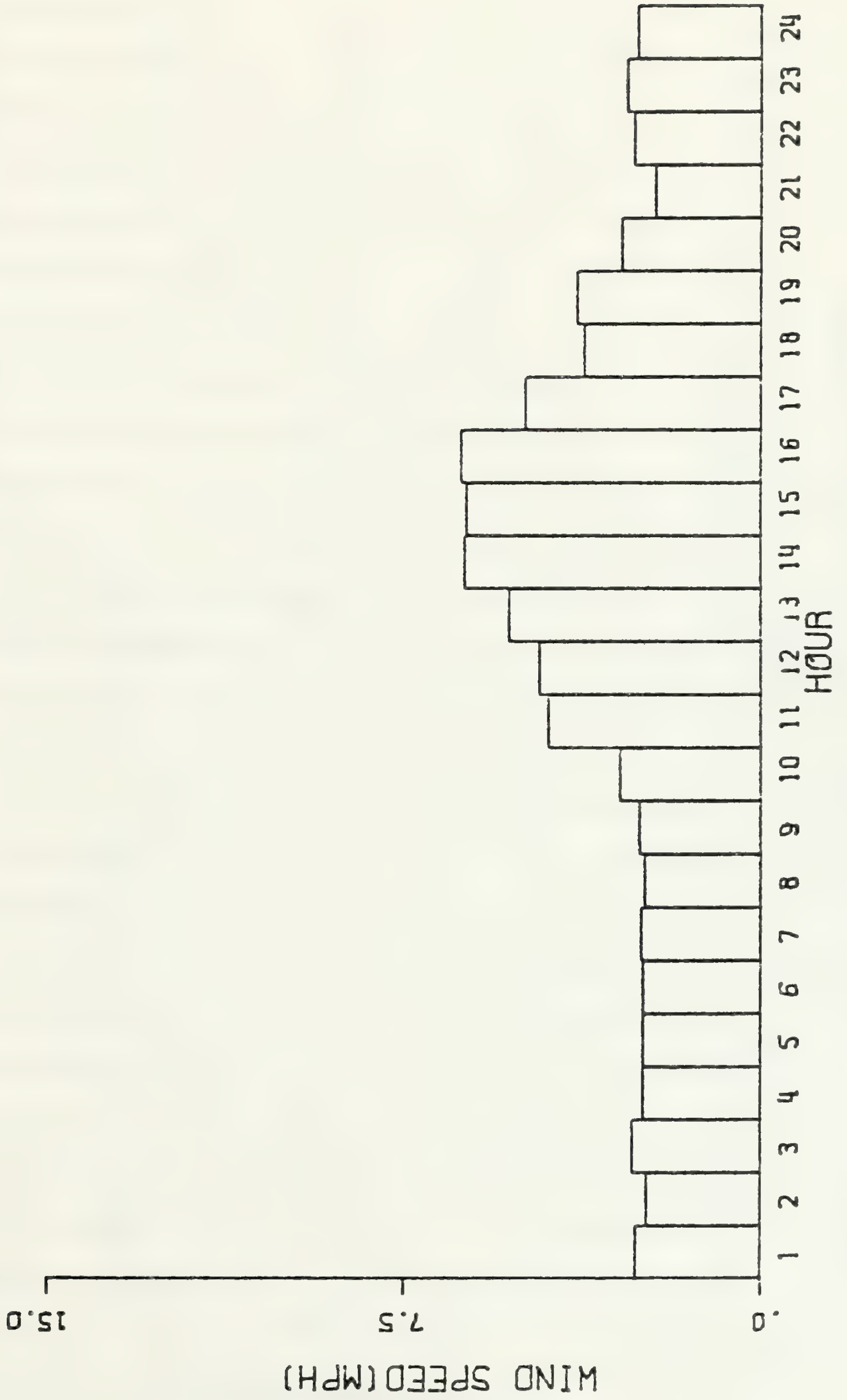
DIURNAL VARIATION OF CARBON MONOXIDE (UG/M**3 X 10**-1)
SITE - 23



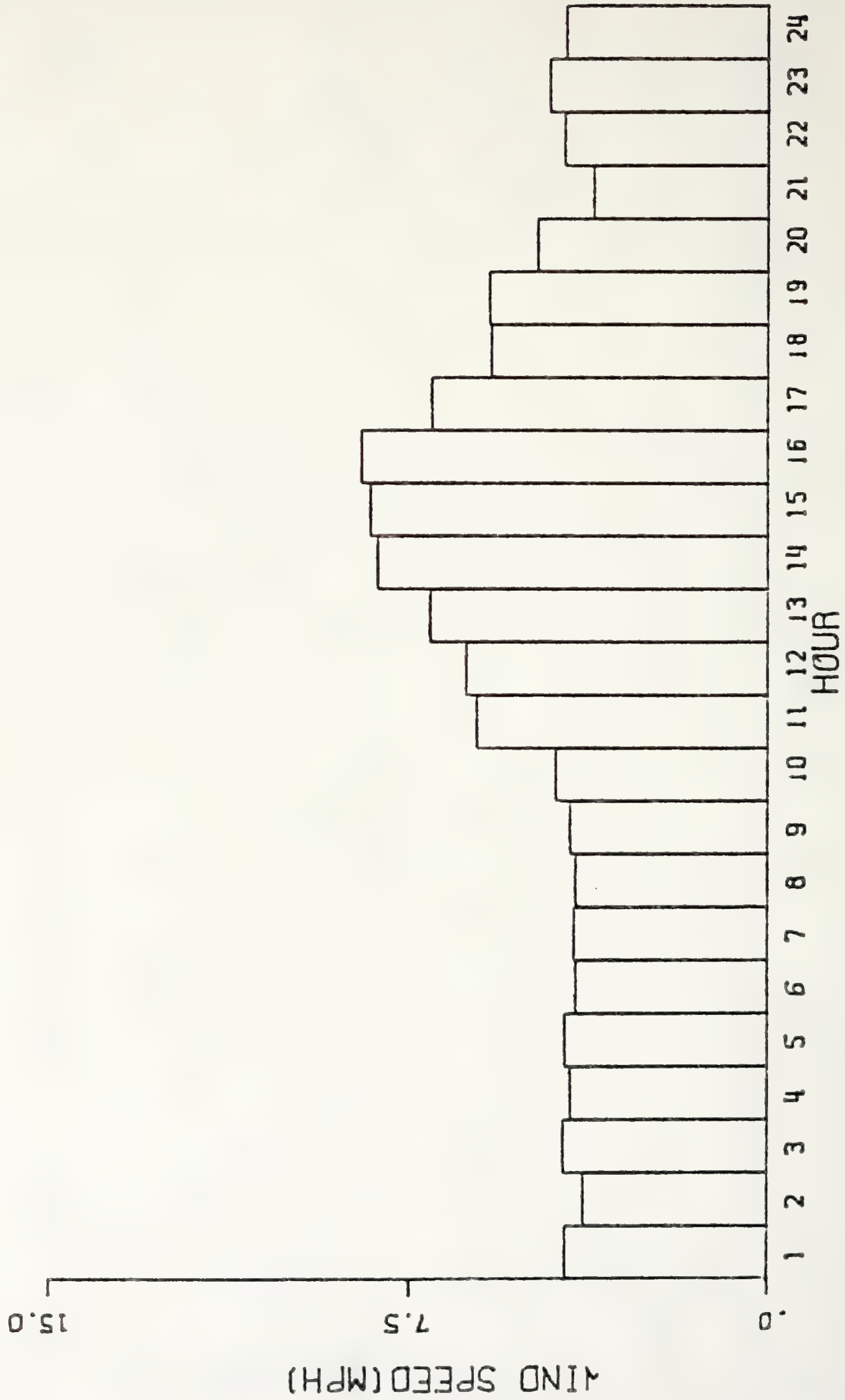
DIURNAL VARIATION OF OZONE (UG/M**3)
SITE - 23



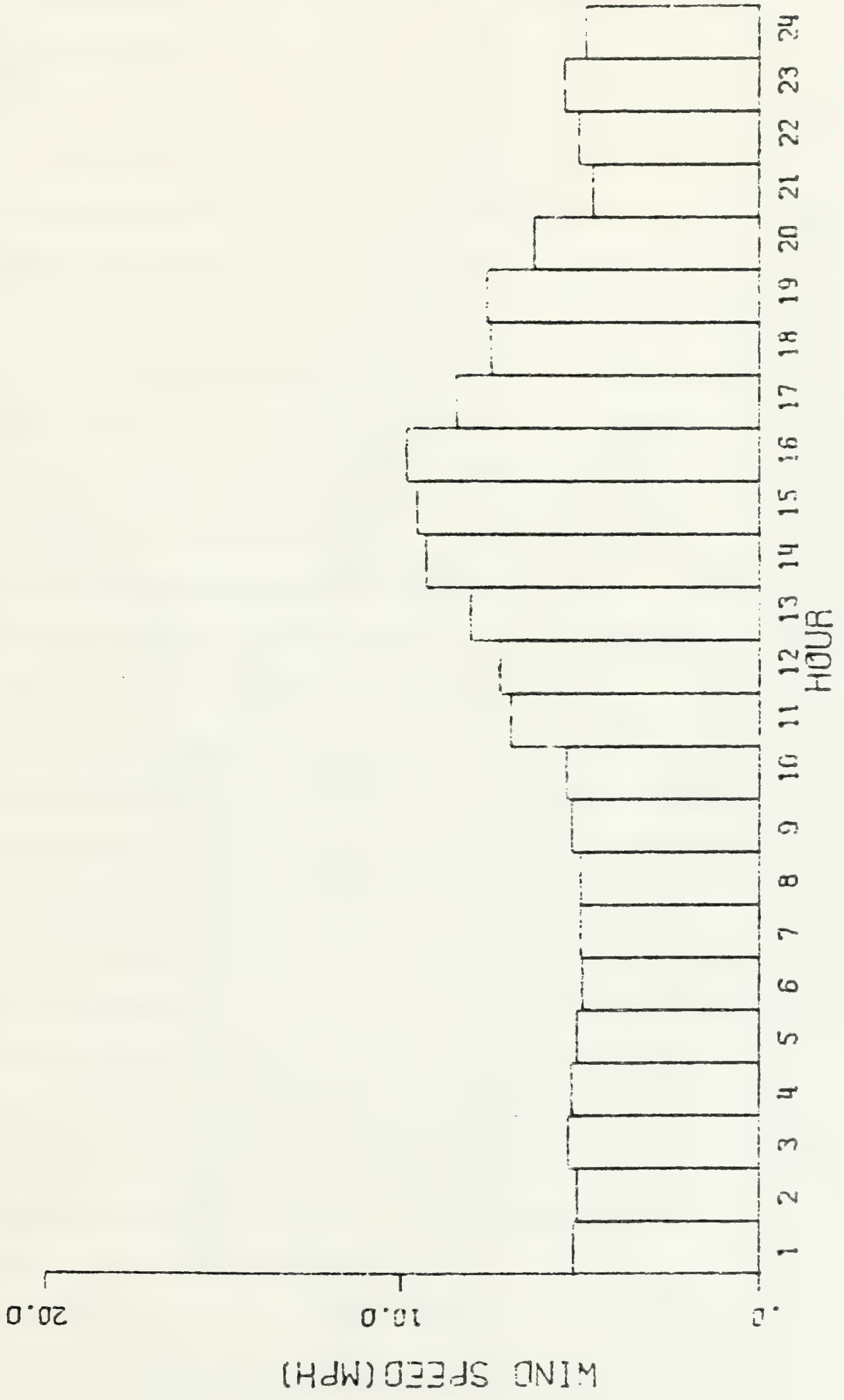
HOURLY TOTAL PRECIPITATION(HUNDREDTHS OF INCHES)
SITE - 23



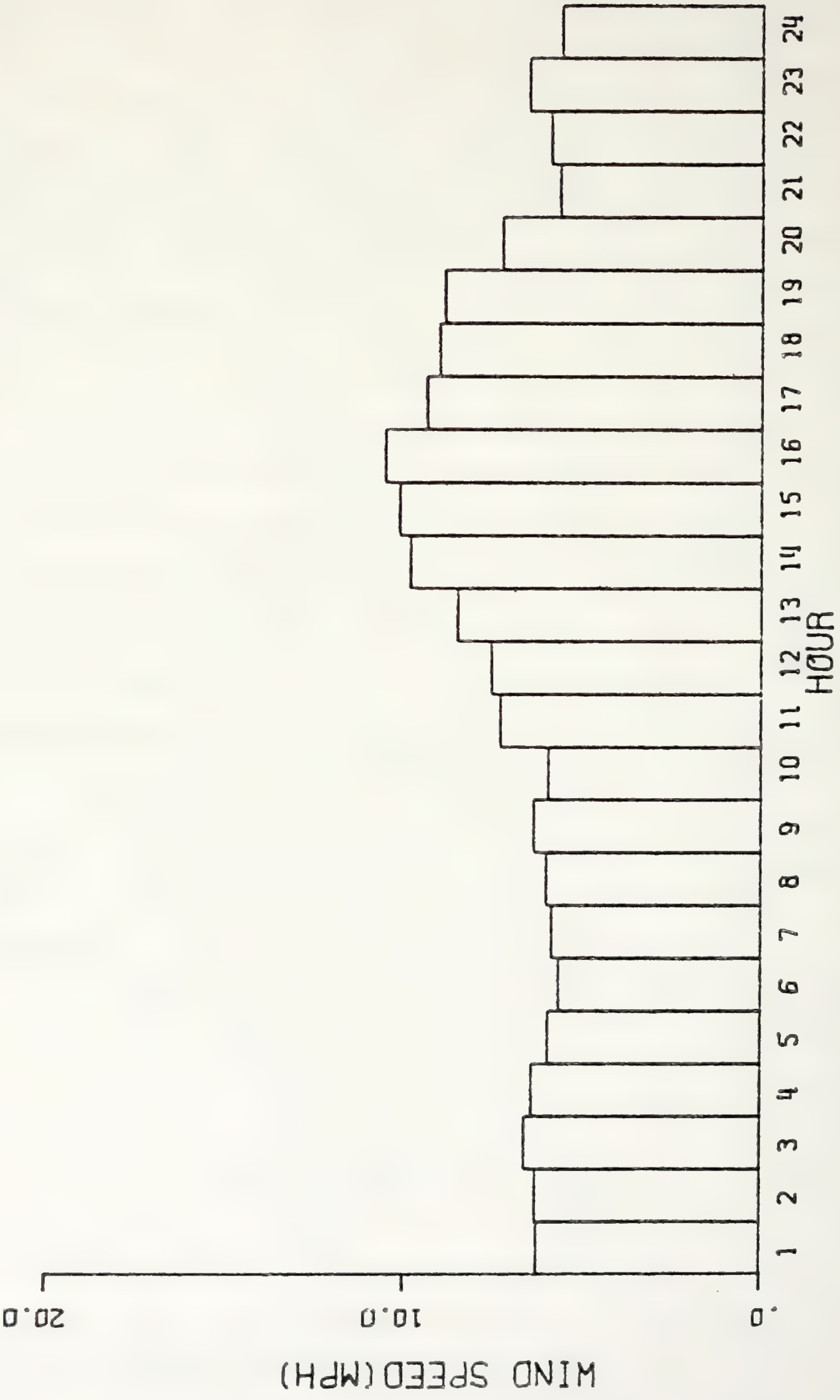
DIURNAL VARIATION OF WIND SPEED AT 8 FEET (MPH)
SITE - 23



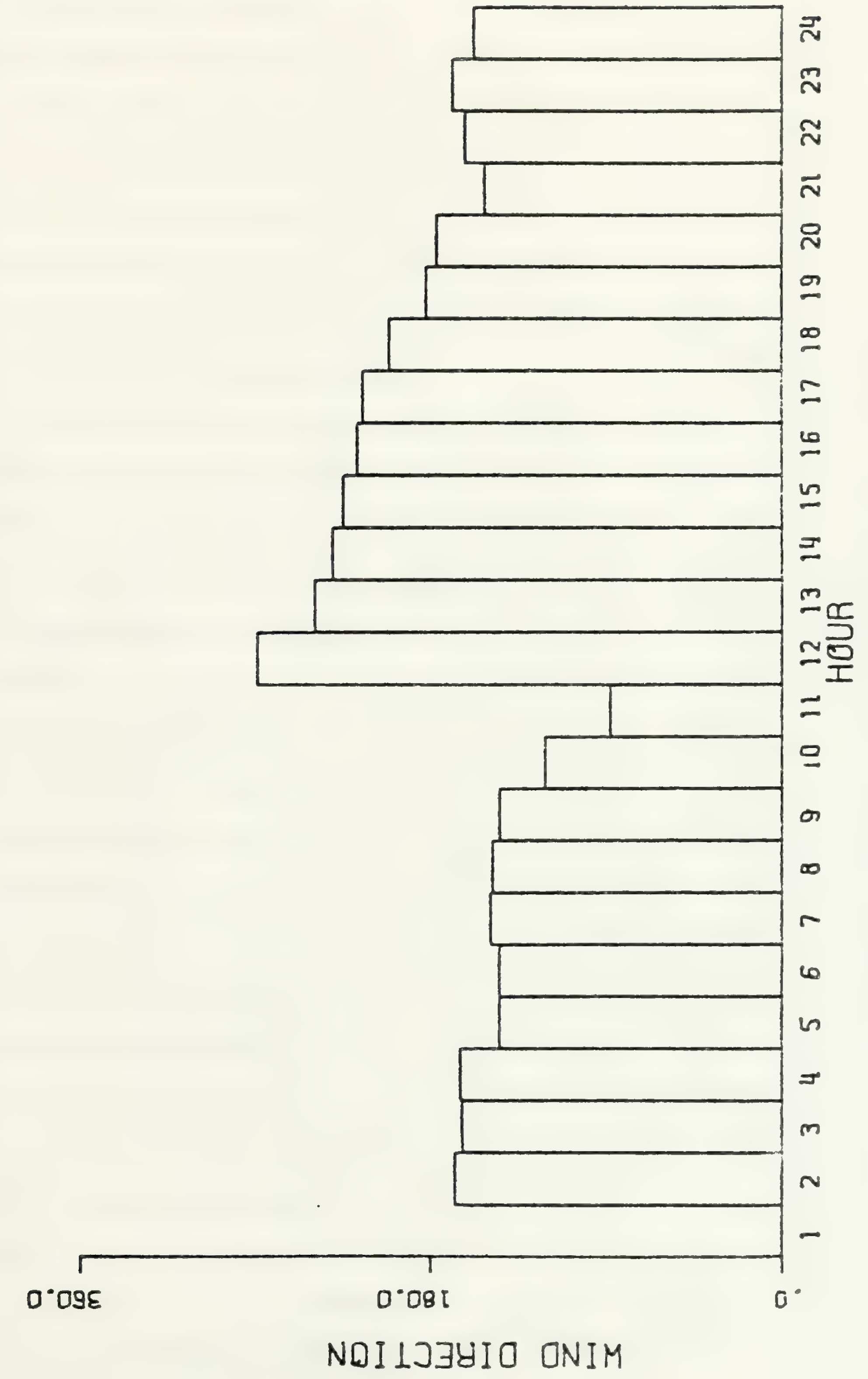
DIURNAL VARIATION OF WIND SPEED AT 30 FEET (MPH)
SITE - 23



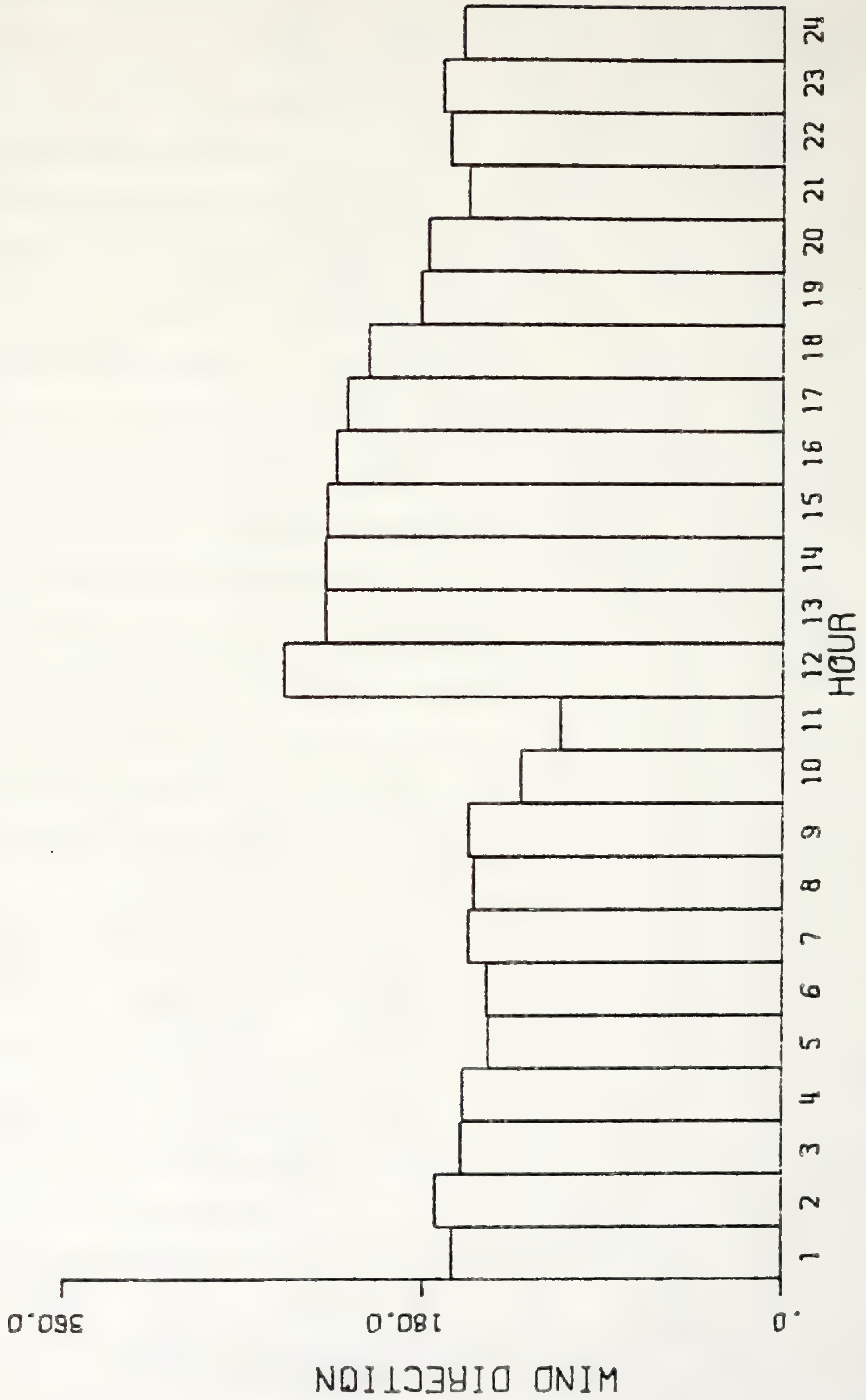
DIURNAL VARIATION OF WIND SPEED AT 100 FEET (MPH)
SITE - 23



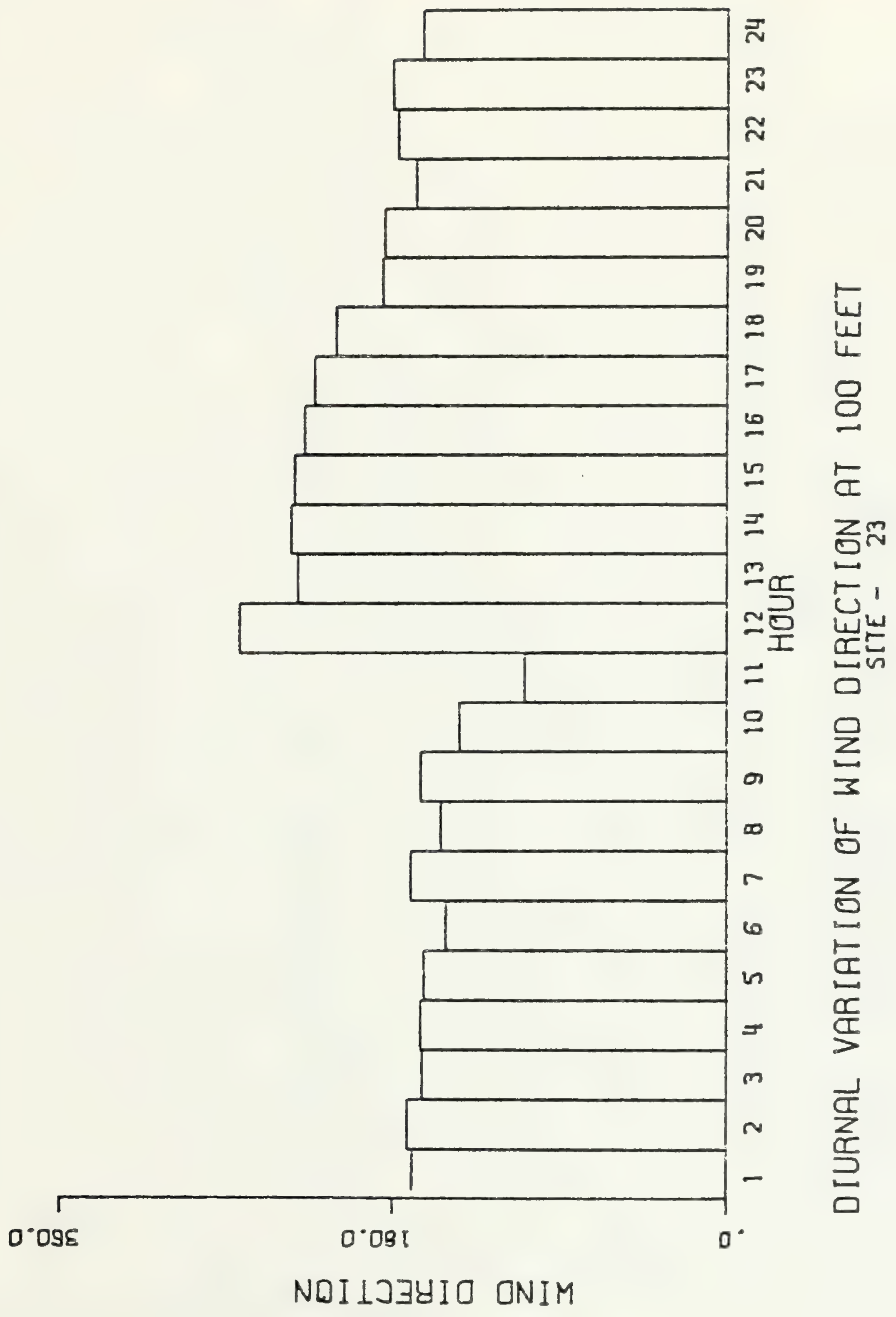
DIURNAL VARIATION OF WIND SPEED AT 200 FEET (MPH)
SITE - 23

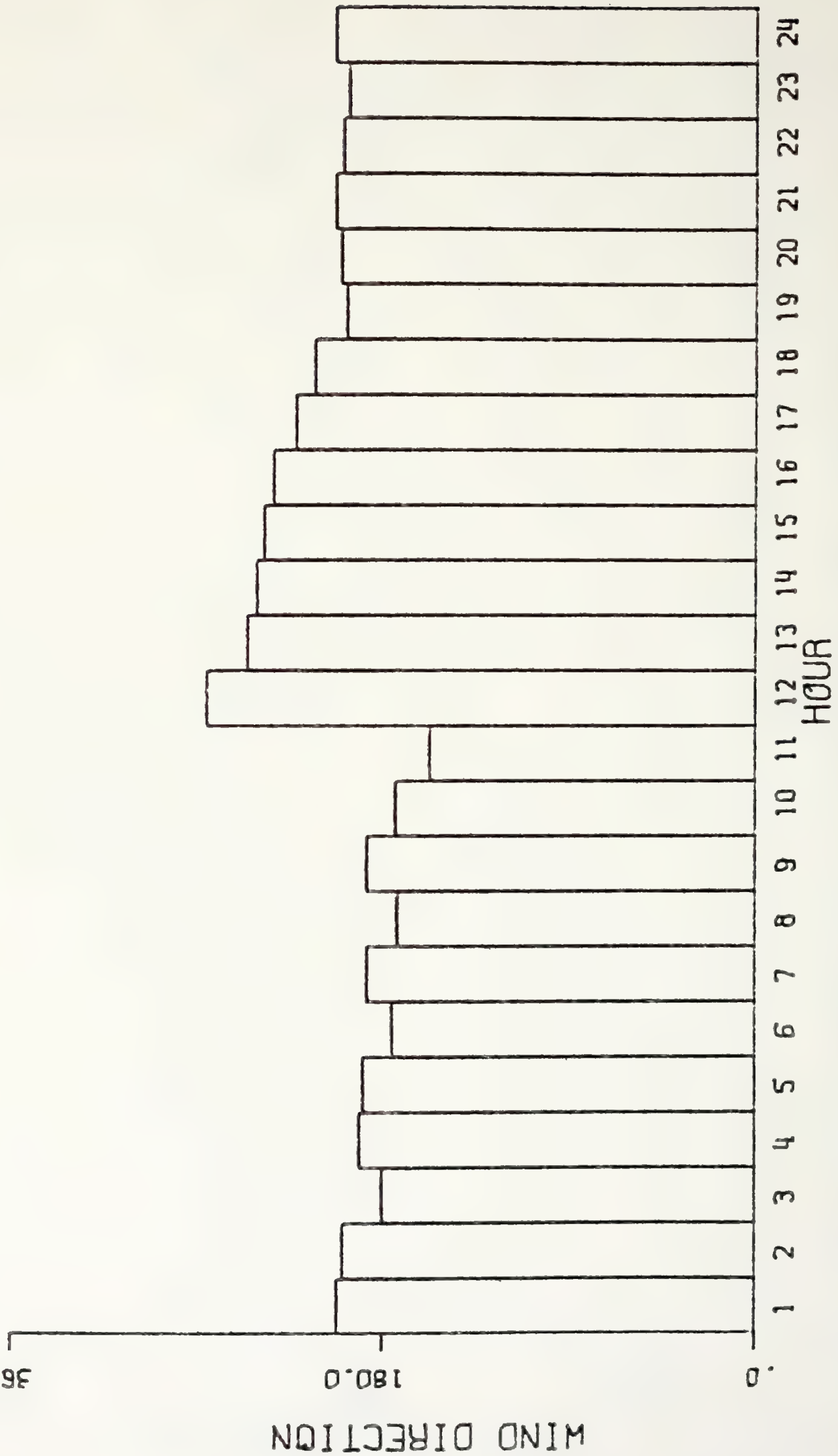


DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET
SITE - 23

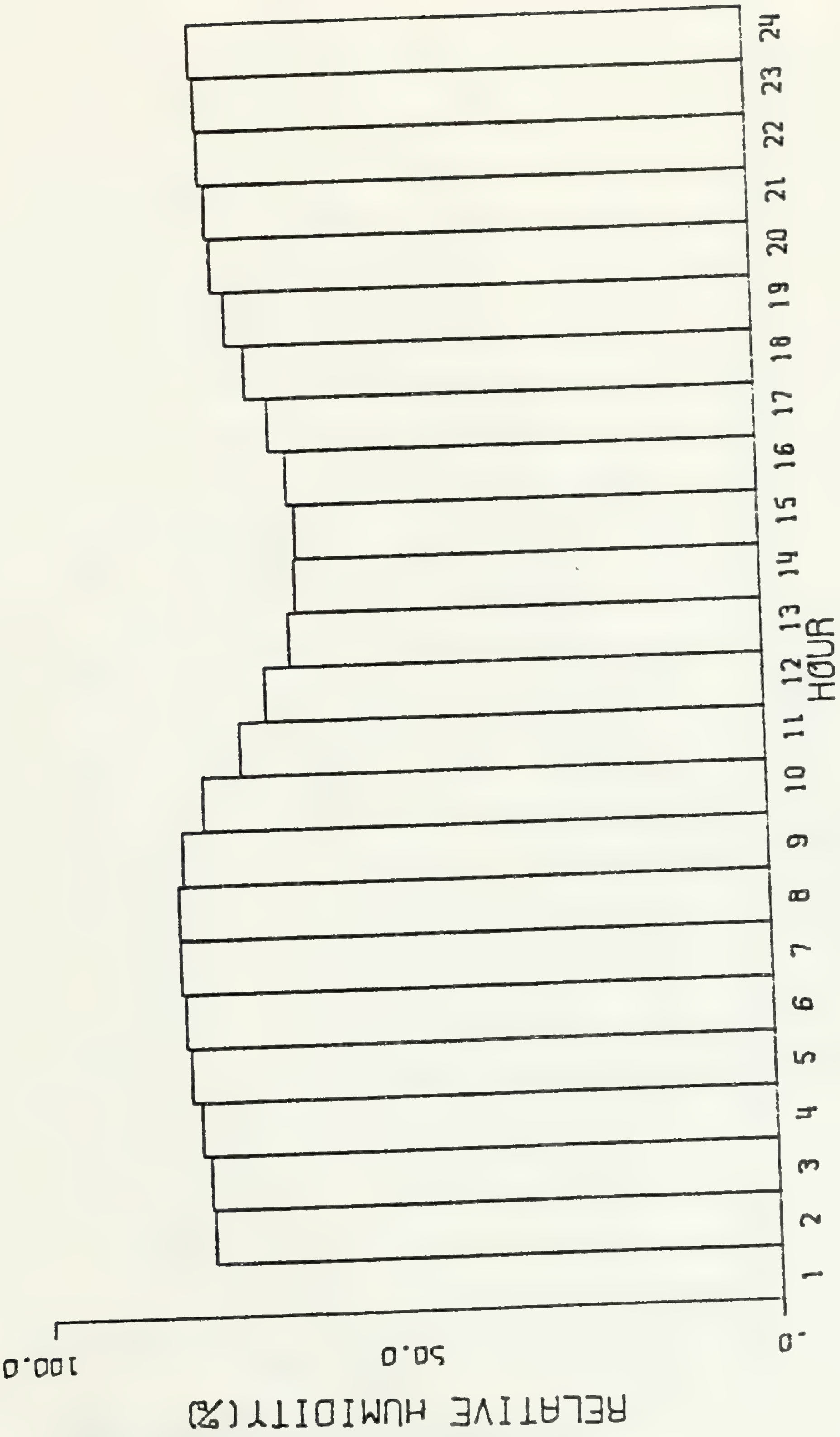


DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET
SITE - 23

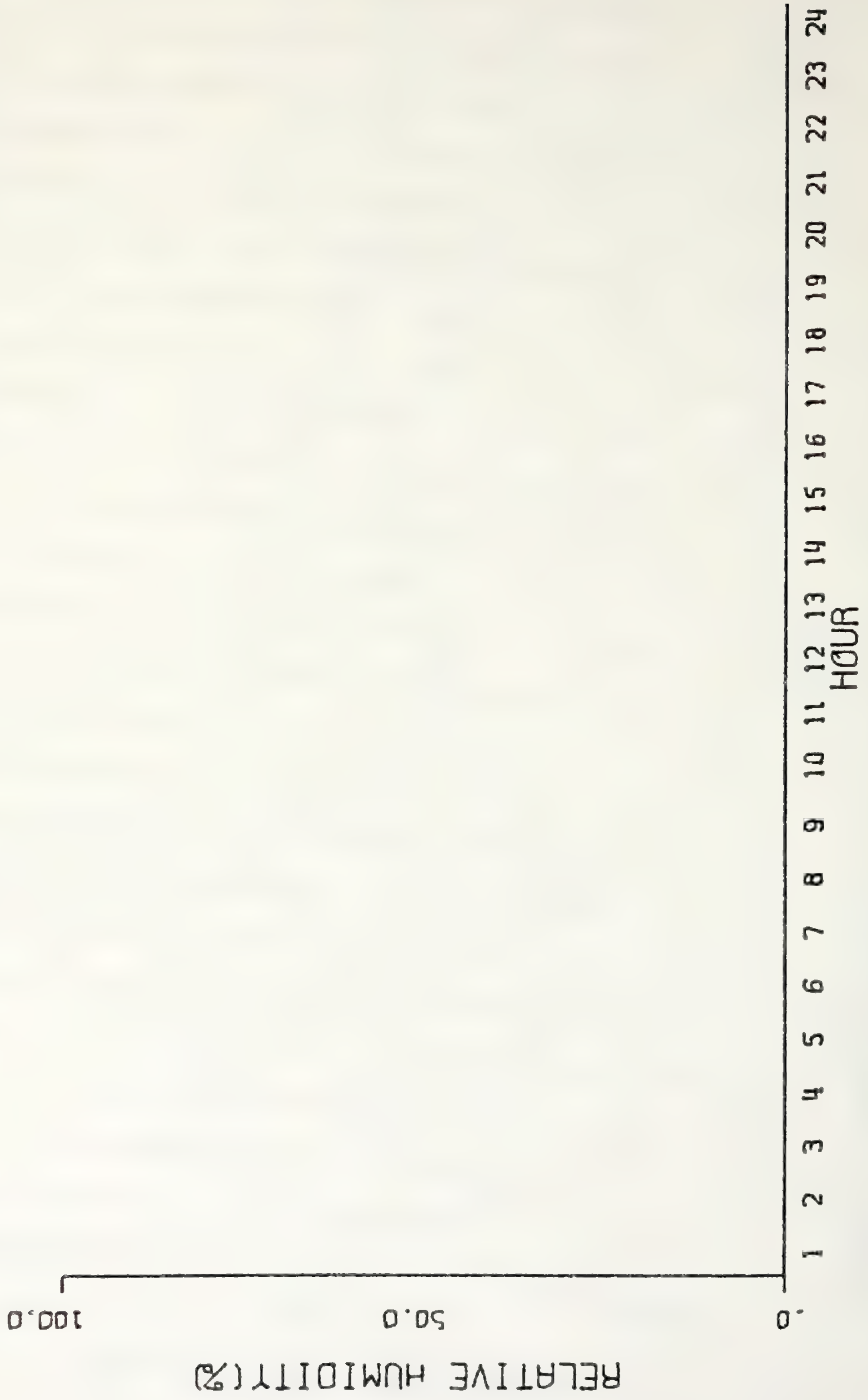

DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET
SITE - 23



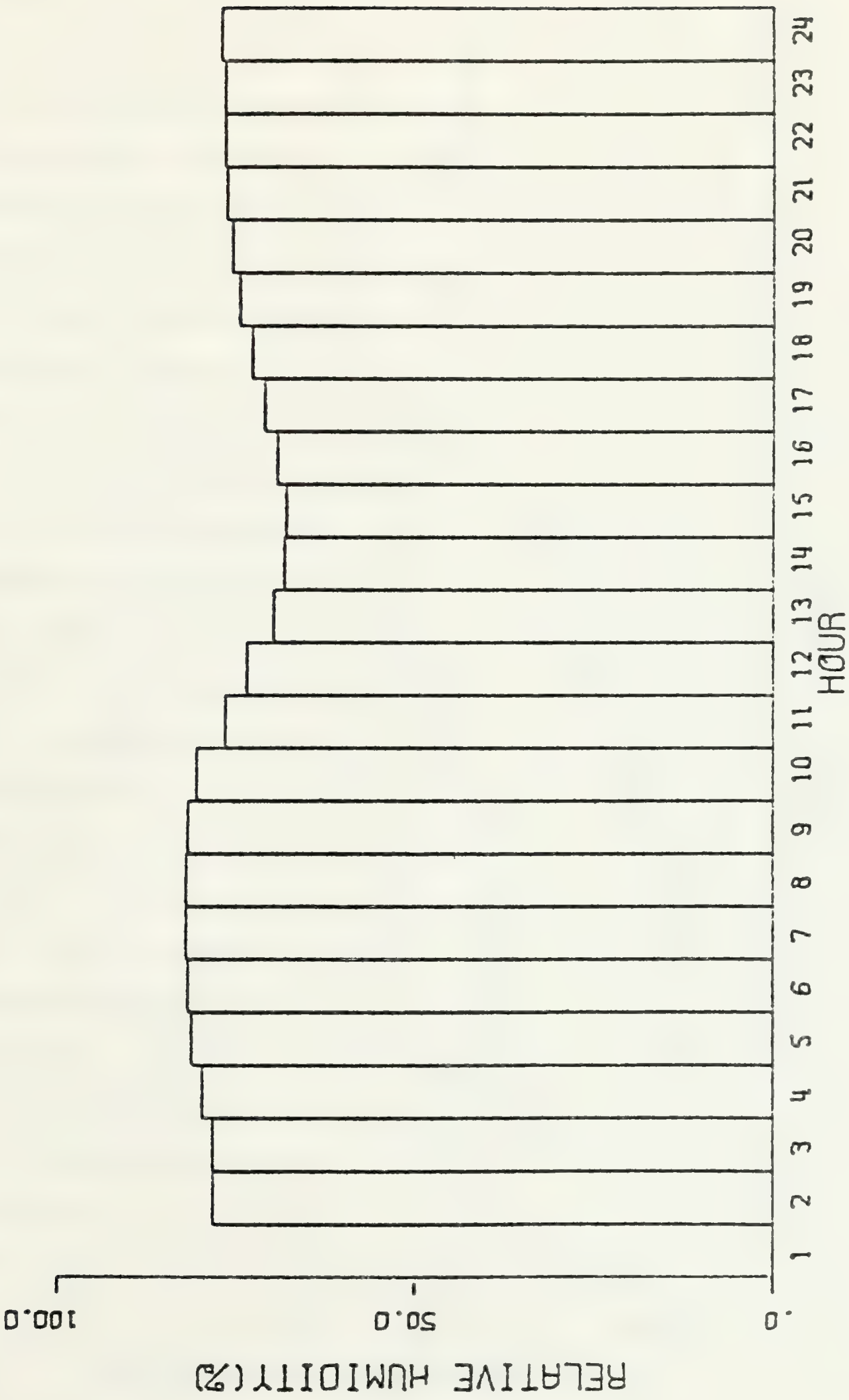
DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET
SITE - 23



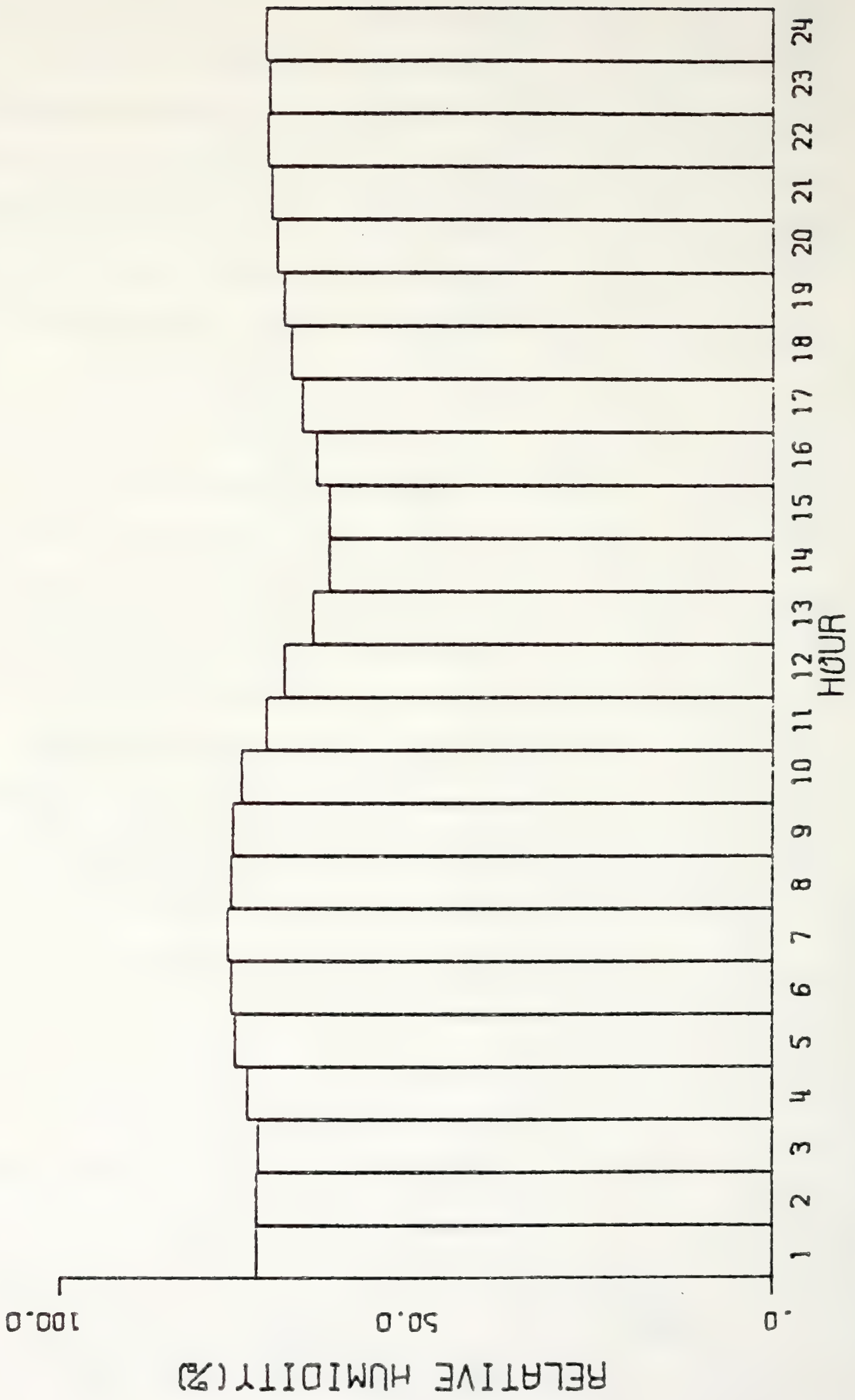
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET
SITE - 23



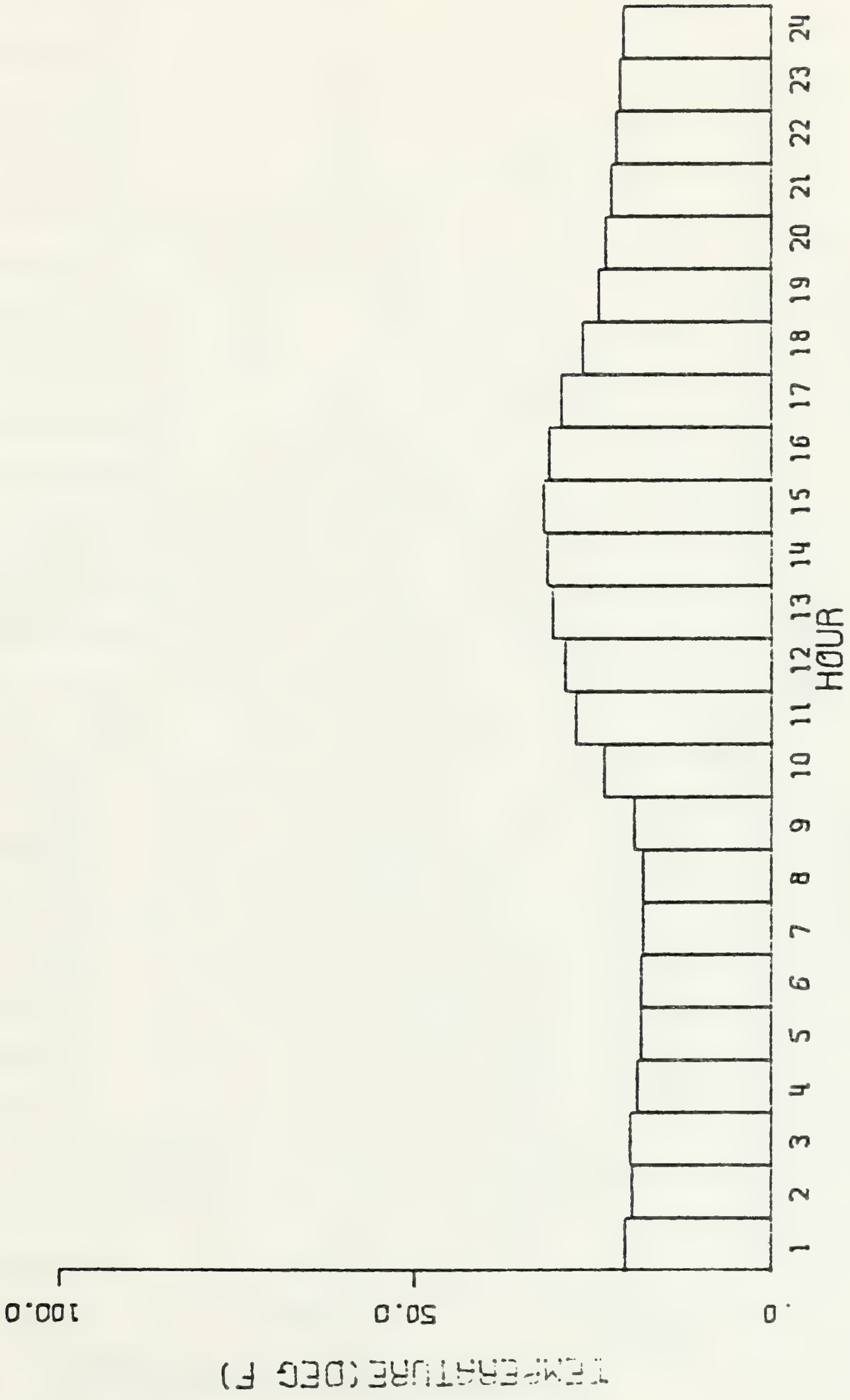
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET
SITE - 23



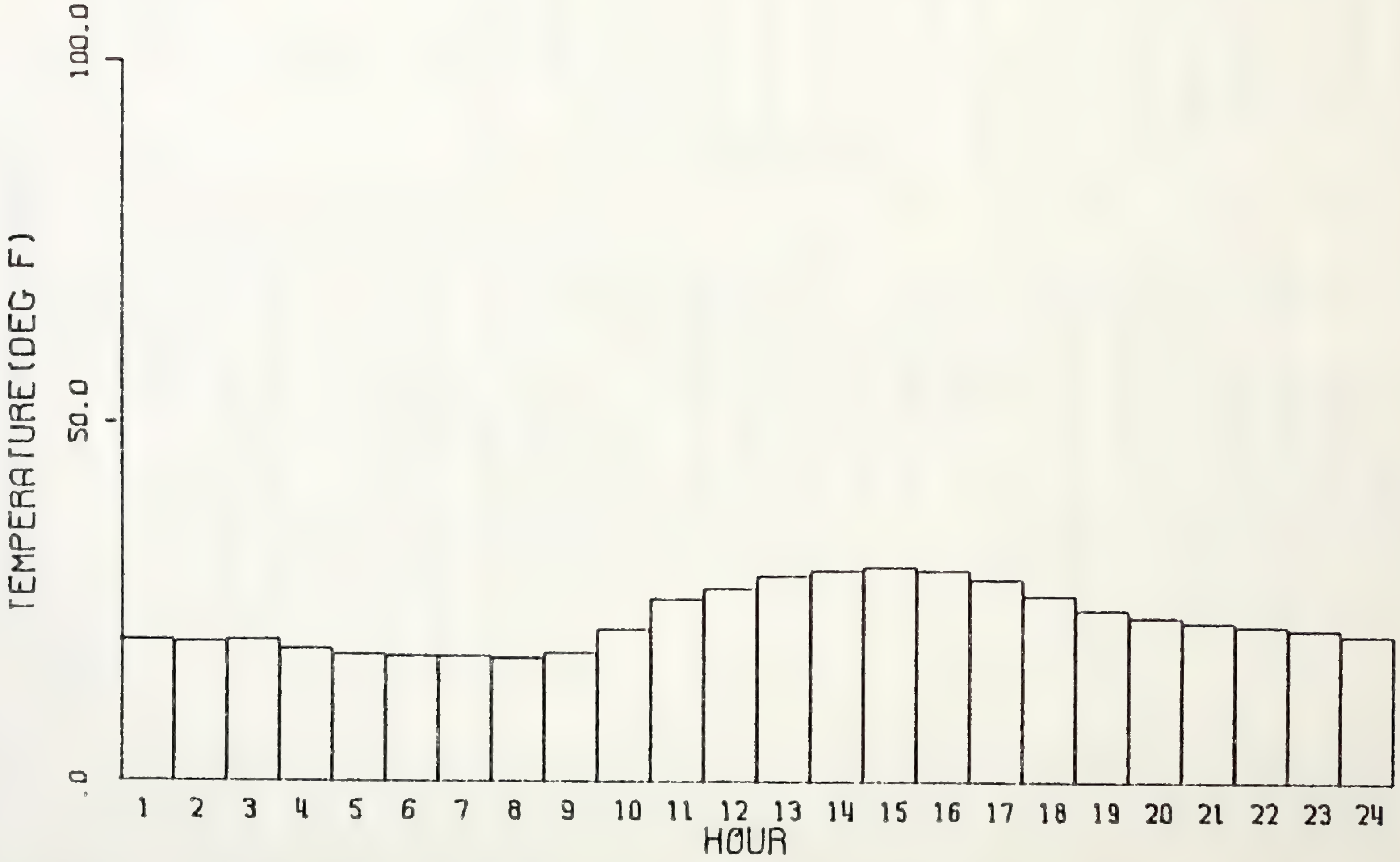
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET
SITE - 23



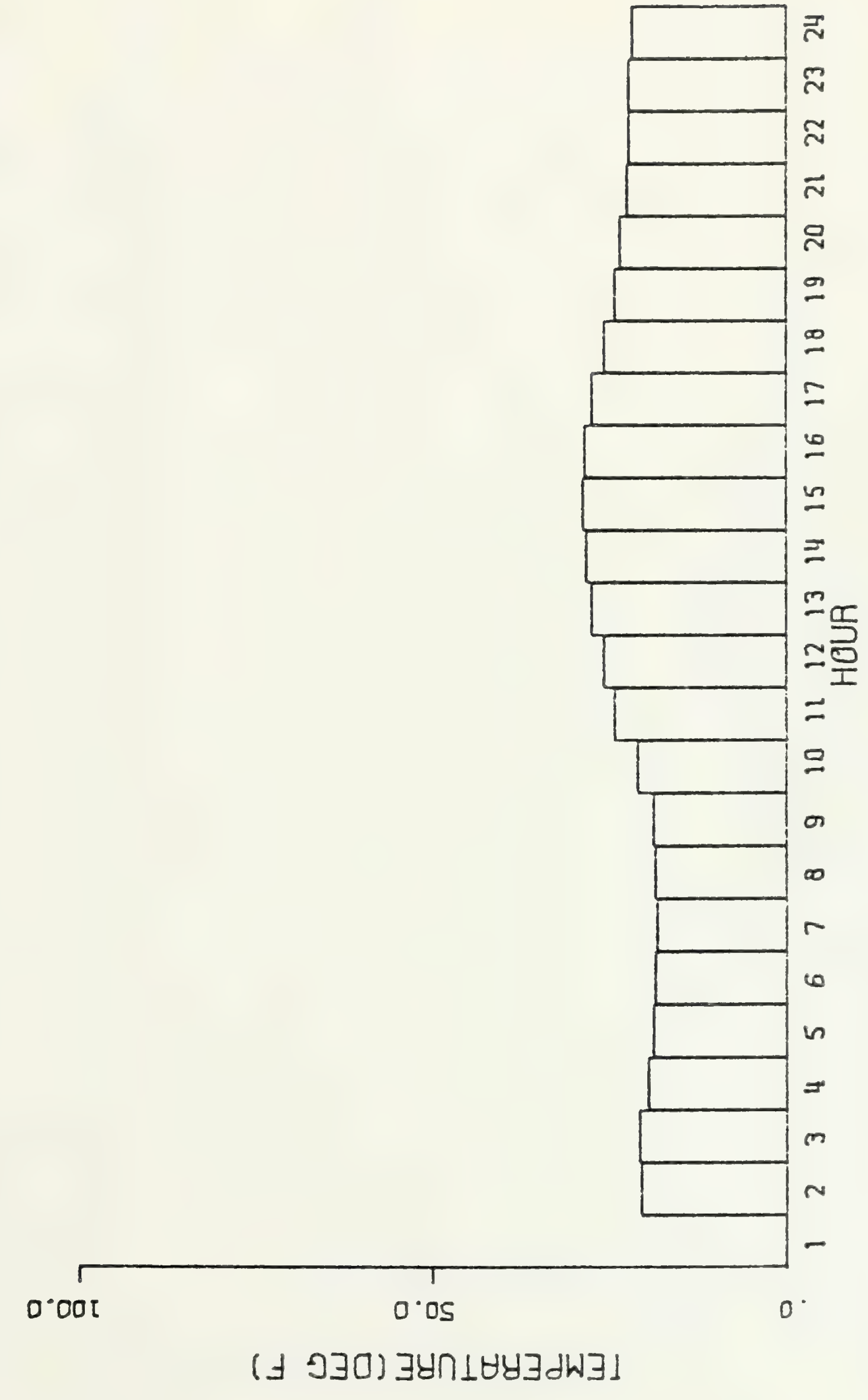
DIURNAL VARAITON OF RELATIVE HUMIDITY AT 200 FEET
SITE - 23



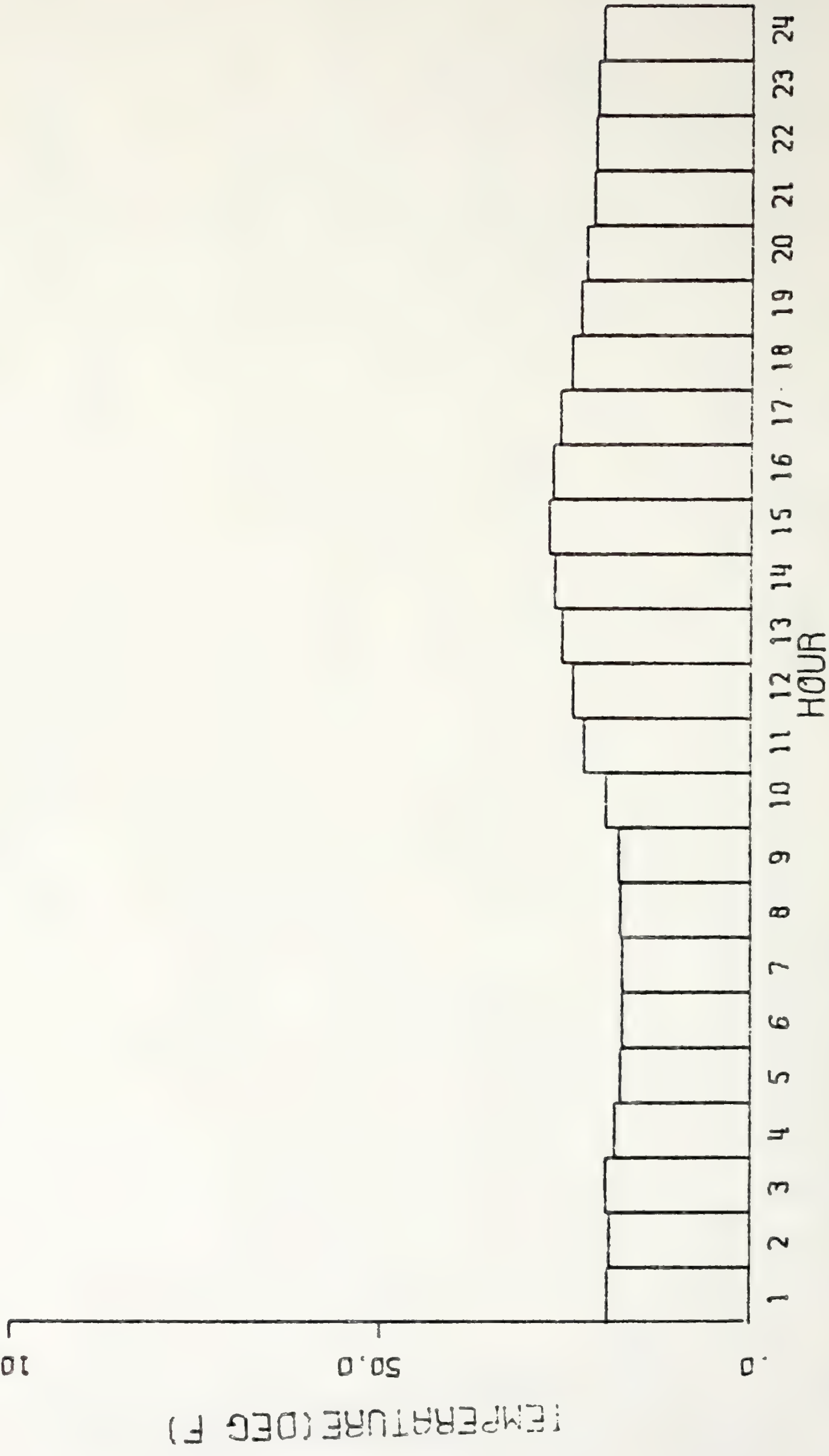
DIURNAL VARIATION OF TEMPERATURE AT 8 FEET(DEG F)
SITE - 23



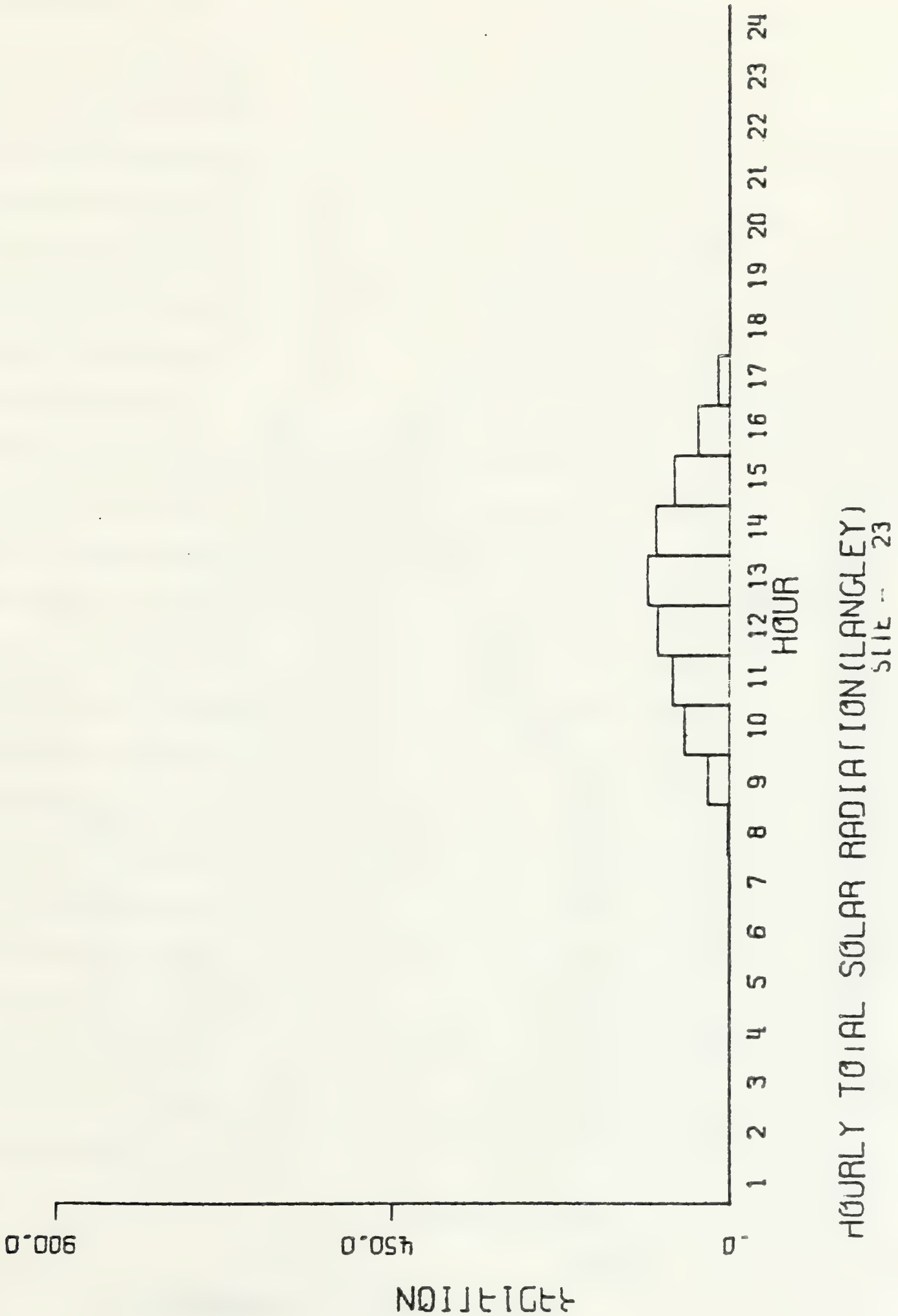
DIURNAL VARIATION OF TEMPERATURE AT 30 FEET(DEG F)
SITE - 23

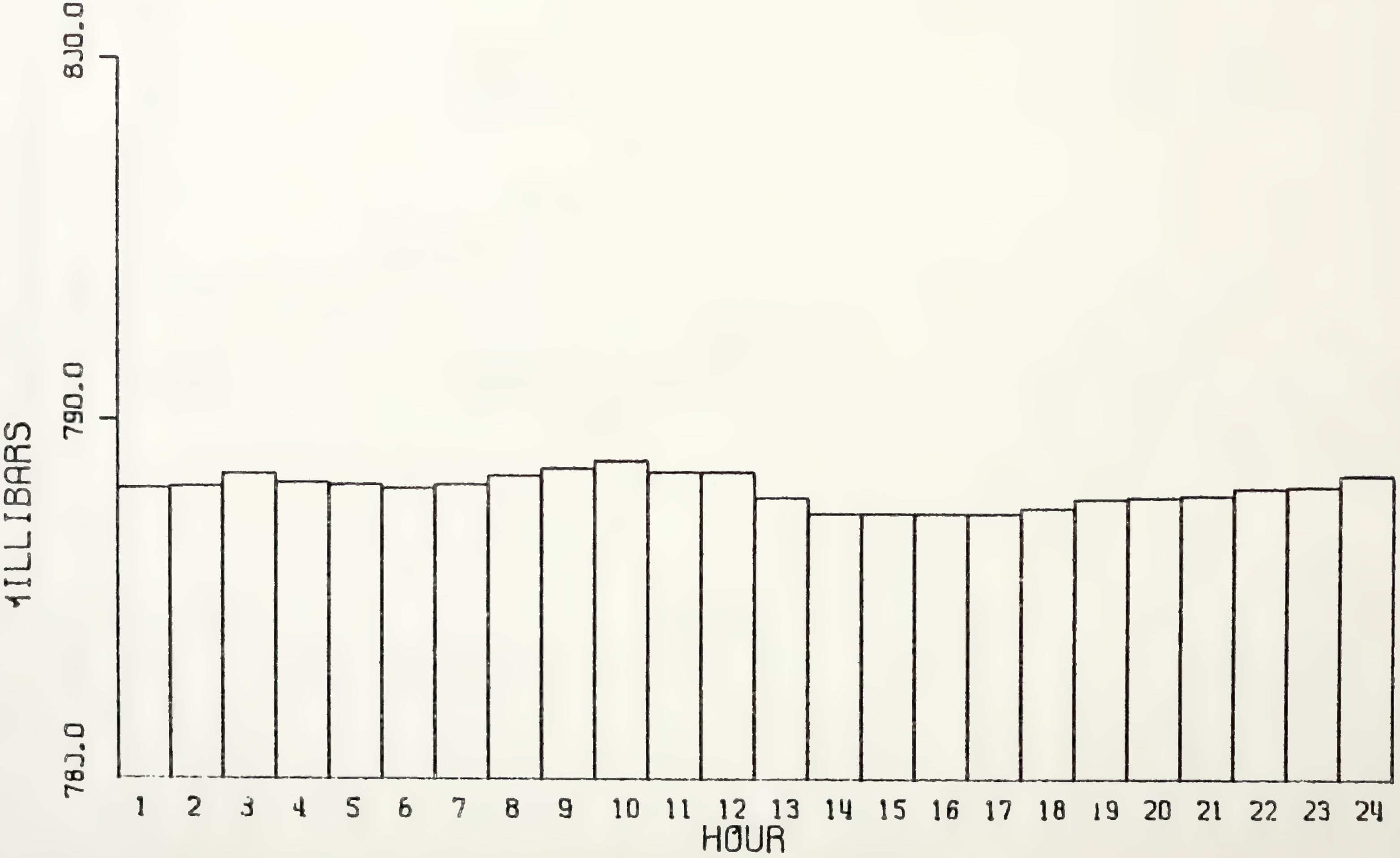


DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)
SITE - 23

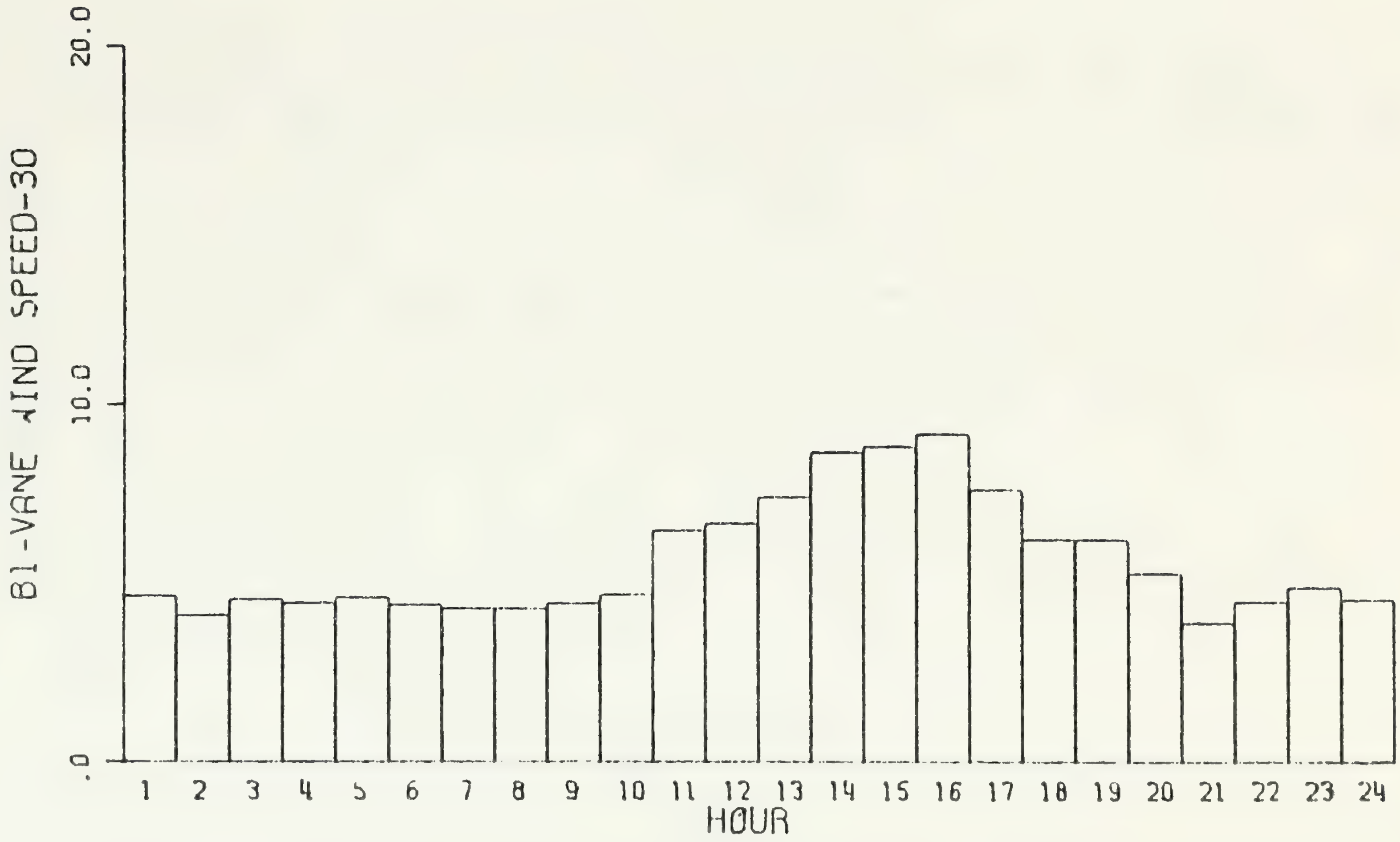


DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)
SITE - 23

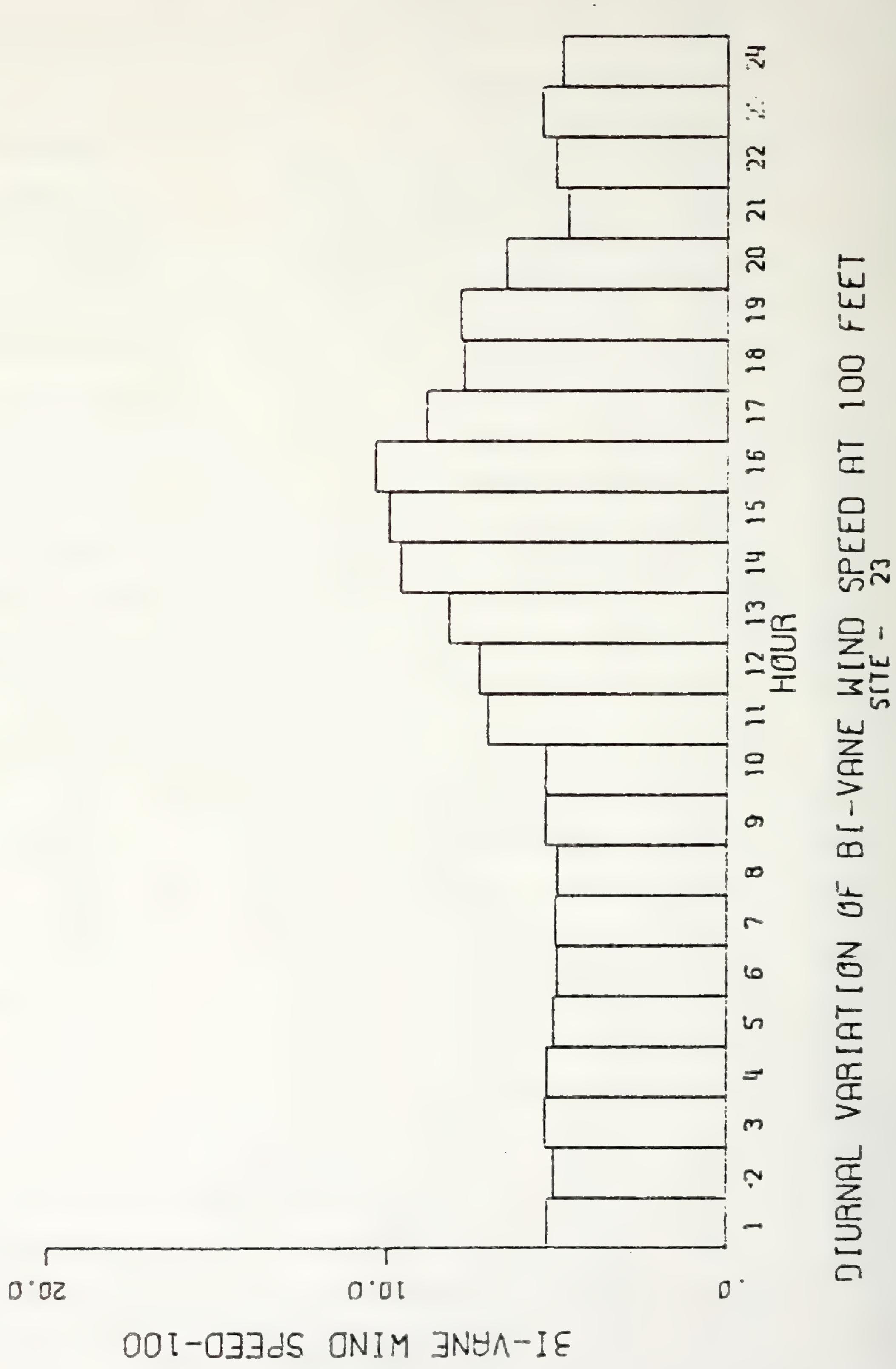

RADIATION
900.0
450.0
0.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
HOUR
HOURLY TOTAL SOLAR RADIATION(LANGLEY)
SITE - 23



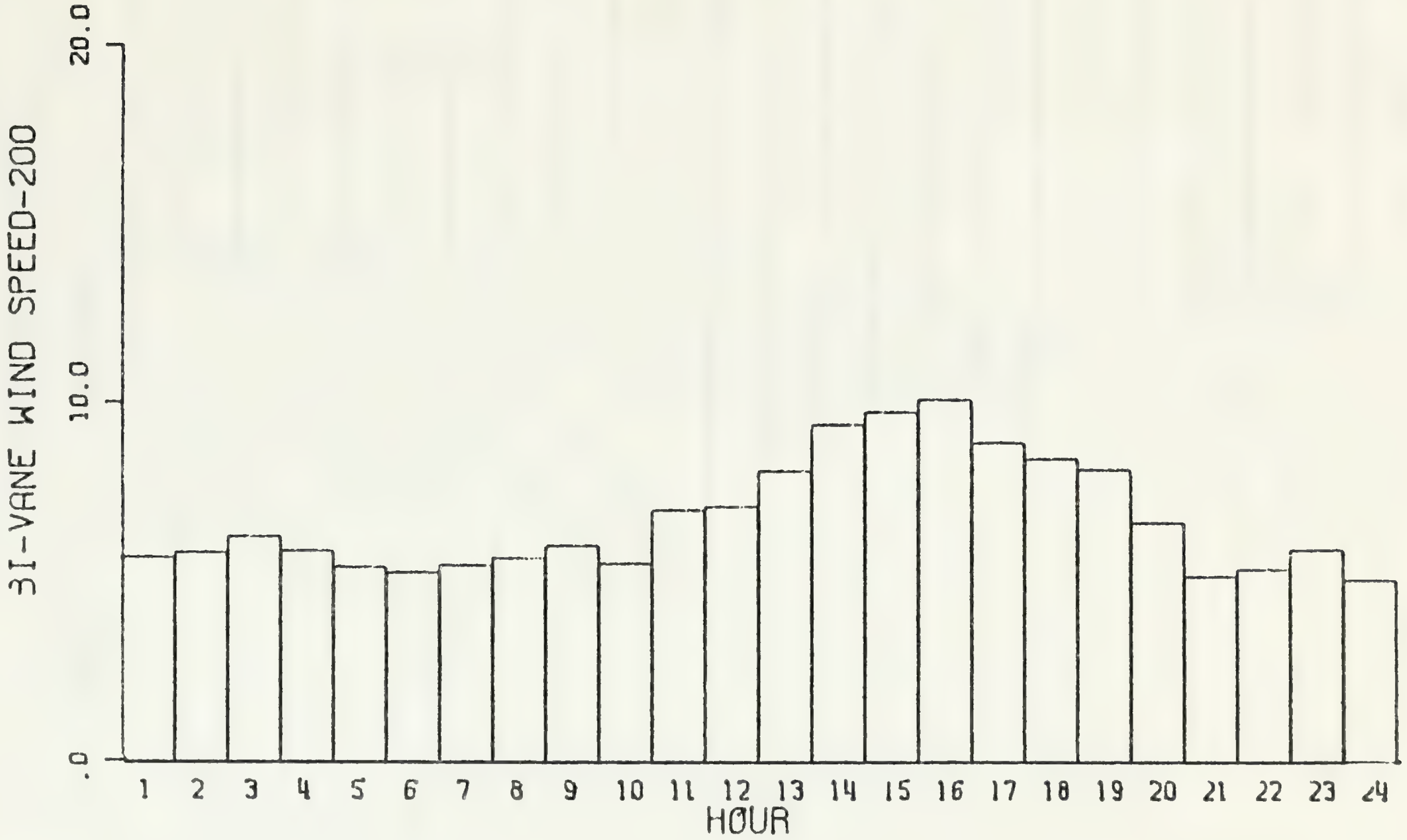
DIURNAL VARIATION OF BAROMETRIC PRESSURE
SITE - 23



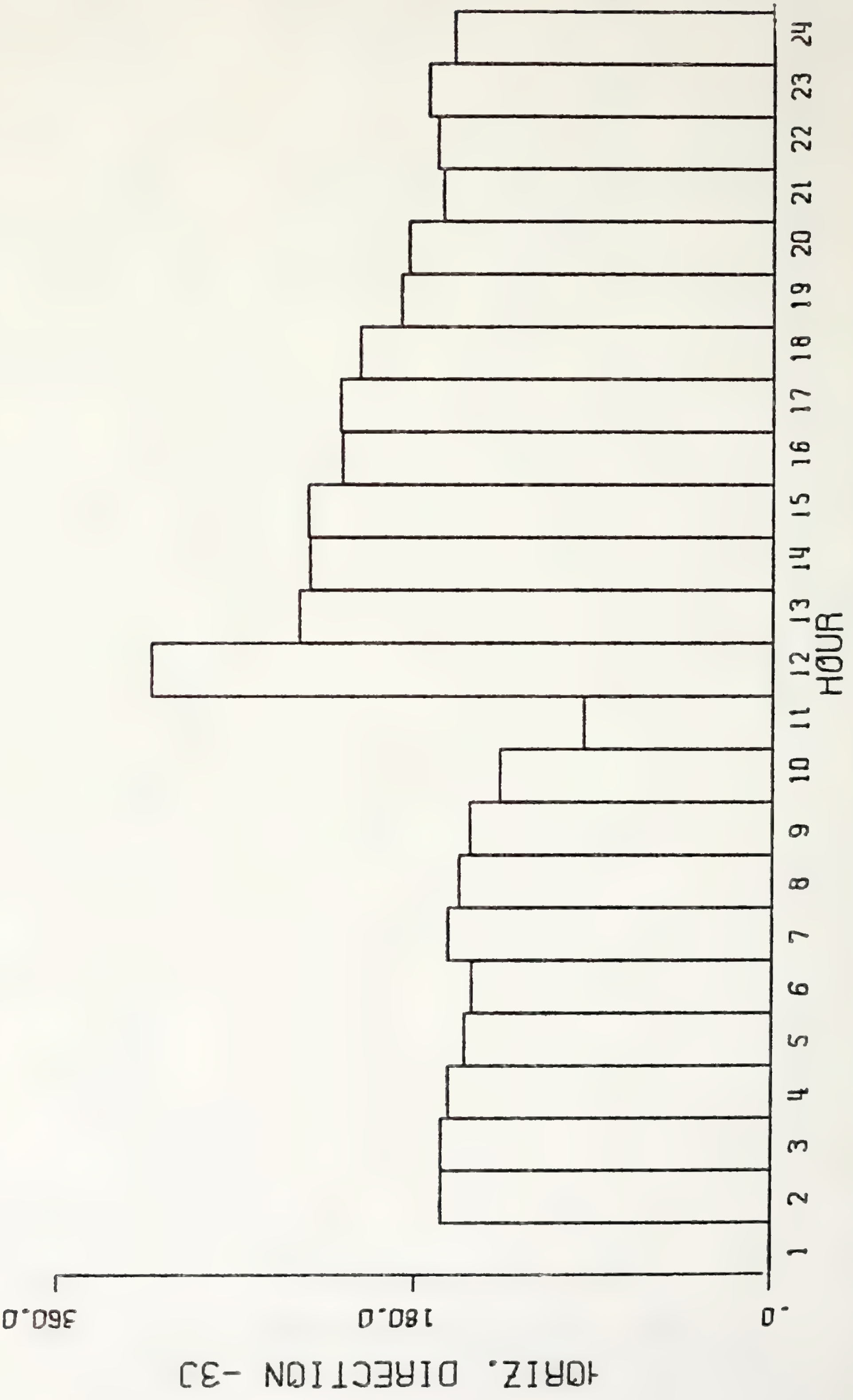
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET
SITE - 23



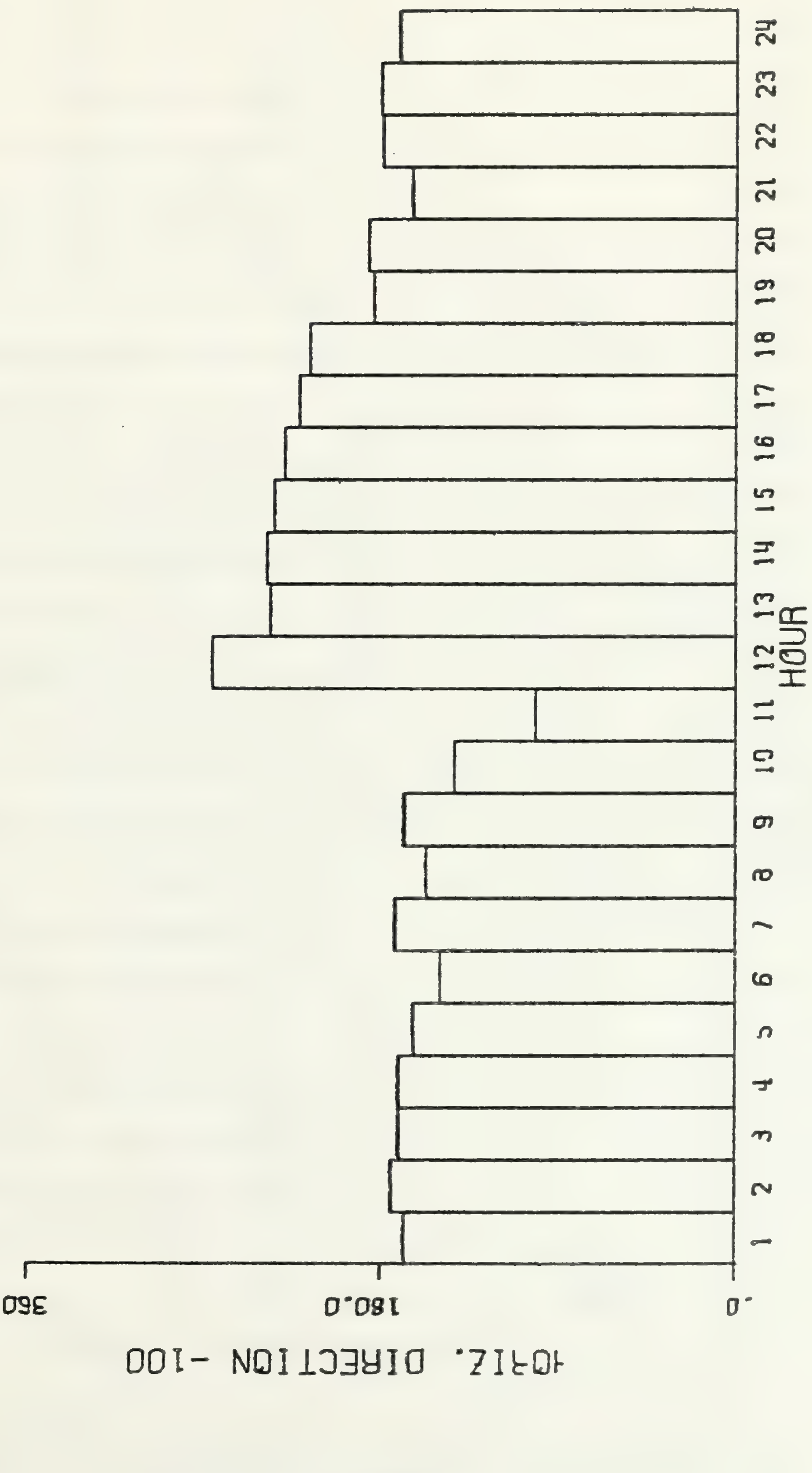
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET
SITE - 23



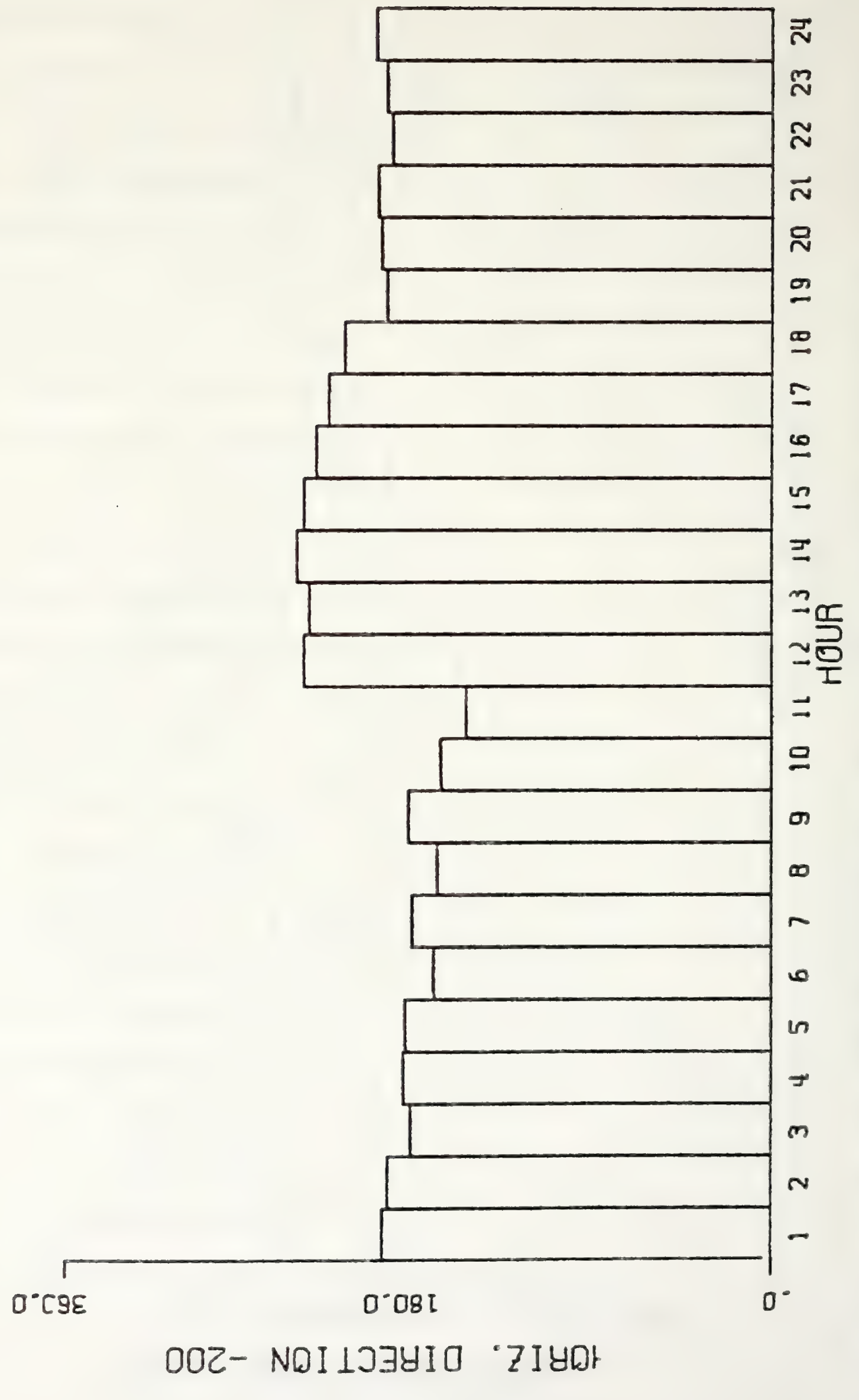
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 200 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET
SITE - 23

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING PYRANOMETER RECORDING
PERIOD(1/ 1/77 TO 1/31/77)

HOUR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1/ 1									C	C	D	D	D	D	D	D	D							
1/ 2									D	D	D	D	D	D	D	D	D							
1/ 3									D	D	D	D	D	D	D	D	D							
1/ 4									C	C	D	C	C	C	D	D	D							
1/ 5									C	C	C	C	C	C	C	D								
1/ 6									C	C	C	C	C	C	D	D	D							
1/ 7									D	C	D	D	D	D	D	D	D							
1/ 8									C	C	C	C	C	D	D	D	D							
1/ 9								C	C	C		C	C	C	B	D	D							
1/10									D	D	D	D	D	D	D	D	D							
1/11									C	B	C	C	C	B	C	D	D							
1/12									D	D	C	D	D	D	D	D	C							
1/13									C	C	B	B	C	B	D	C	C							
1/14								C	C	C	C	D	B	C		D	D							
1/15									D	D	D	D	C	C	C	C	D							
1/16									C	C	D	C	C	D	D	C	C							
1/17									C	C	C	B	B	B	C	C	C							
1/18								C	C	B		C	C	C	C	D	D							
1/19								C	C	B	B	B	B	C	C	C	C							
1/20									C	C	B	C	B	C	C	D	D							
1/21									C	C	B	C	C	C	D	D	D							
1/22									C	C	C	C	C	C	C	C	C							
1/23										C	C	C	C	C	D	D	C							
1/24								C	C	C	C	B	B	C	B	B	C							
1/25								C	C	C	B	A	B	C	C	C	D							
1/26								C	C	B	C	C	D	D	D	D	D							
1/27								C	C	B	C	C	C	C	C	C	D							
1/28								C	C	C	C	D	C	C	C	C	D							
1/29								C	C	B	C	B	B	C	C	C	D							
1/30								C	C	C	B	B	B	B	B	C	C							
1/31								C	C	C	B	B	C	C	C	D	D							

* NON-ZERO PYRANOMETER READING BUT STABILITY CLASS UNCERTAIN SINCE NIGHTTIME NET RADIATION INDEX IS REQUIRED

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                  C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                          PERIOD( 1/ 1/77 TO  1/31/77)

                                        HOUR
         1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24


1/ 1     F  E  E  E  E  E  E  E  D  B  D  D  D  D  D  D  D  D  D  D  D  D  E  D
1/ 2     D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D  D
1/ 3     D  D  D  D  D  D  D  D  D  D  D  D  D  D  C  D  C  D  D  D  D  E  D  D
1/ 4     D  E  E  E  F  F  E  F  E  C  B  B  B  B  B  C  D  D  E  E  D  E  F  E
1/ 5     E  F  E  F  F  F  D  E  E  D  D  D  A  A  A  D  D  D  D  D  E  E  E  E
1/ 6     F  F  F  F  F  F  F  F  F  E  E  A  A  B  B  B  D  E  F  F  F  F  F  F
1/ 7     F  F  F  F  E  E  E  E  F  A  B  B  D  D  D  D  D  E  E  E  E  E  E  E
1/ 8     E  F  E  E  F  F  F  F  E  D  C  A  B  B  B  B  D  D  D  D  E  E  E  E
1/ 9     E  F     F  F  F  F  F  F  D     A  A  B  C  B  D  D  D  F  E  E  E  F
1/10     F  F  E  F  F  F  E  E  D  D  D  D  D  D  D  D  D  D  E  F  F  E  F  F
1/11     F  F  F  F  F  F  F  F  F  F  D  A  A  A  B  B  D  E  F  F  F  F  F  F
1/12     F  F  F  F  F  F  F  F  E  C  C  C  C  D  D  D  D  D  E  E  E  E  E  E
1/13     E  F  F  F  F  F  F  E  E  E  A  A  B  A  B  C  D  F  E  F  F  F  F  F
1/14     F  F  F  F  F  F  F  F  F  F  A  A  A  B     C  D  D  E  E  F  E  F  F
1/15     F  F  F  E  D  D  D  E  E  C  D  D  B  B  B  C  E  F  F  F  F  F  F  F
1/16     F  F  E  E  F  F  F  F  F  F  B  A  A  B  B  C  D  E  E  E  E  F  F  F
1/17     F  F  F  F  F  F  F  F  F  E  B  A  A  A  A  A  C  D  E  E  F  F  F  F
1/18     F  F  F  F  F  F  F  F  F  F     A  B  B  B  B  B  E  F  F  F  F  F  F
1/19     F  F  F  F  F  F  F  F  F  E  A  A  A  B  B  A  D  E  F  F  F  E  F  F
1/20     F  F  F  F  F  F  F  F  F  E  A  A  A  A  A  B  C  E  E  F  F  F  F  F
1/21     F  F  F  F  F  F  F  F  F  E  A  C  B  B  B  B  D  D  E  E  F  F  F  F
1/22     F  E  E  D  D  D  E  E  D  B  C  A  A  A  A  B  D  D  D  D  D  D  D  D
1/23     D  D  D  D  D  D  D  D  D  C  A  A  A  A  B  B  C  D  E  E  E  E  E  E
1/24     E  E  F  F  F  F  F  F  F  E  C  A  A  B  A  A  A  E  F  E  F  F  F  F
1/25     F  F  F  F  F  F  F  F  F  D  D  A  B  B  B  B  B  E  E  E  F  F  F  F
1/26     F  F  F  F  F  F  F  F  F  B  B  B  C  C  D  C  C  D  E  E  E  E  F  F
1/27     F  F  F  F  F  F  F  F  F  A  B  B  B  B  B  B  C  E  F  E  F  F  F  F
1/28     F  F  F  F  F  F  F  F  F  D  A  A  B  B  B  B  B  E  F  F  F  F  F  F
1/29     F  F  F  F  F  F  F  F  F  E  A  A  A  B  B  B  D  F  E  F  E  F  F  F
1/30     F  F  F  F  F  F  F  F  F  C  C  A  A  B  A  A  B  D  F  F  F  F  F  F
1/31     F  F  F  F  F  F  F  F  F  E  B  A  B  B  B  B  C  D  F  F  F  F  F  E
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           C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
         STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                   PERIOD( 1/ 1/77 TO  1/31/77)

                      HOURLY WIND AND DIRECTION
                         A STABILITY CLASS

                                            HOUR
       1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1

1/ 2

1/ 3

1/ 4

1/ 5                                                   2   3   3
                                                      NW  NW WNW
1/ 6                                               2   5
                                                   W  SW
1/ 7                                       3
                                         SSE
1/ 8                                               3
                                                 WNW
1/ 9                                               2   1
                                                 ENE ESE
1/10

1/11                                               2   2   4
                                                 NNE   N WSW
1/12

1/13                                           3   3       3
                                             ESE ESE       W
1/14                                           1   2   3
                                             NNE NNE WSW
1/15

1/16                                               3   2
                                                 SSW  SW
```

RADIAN
CORPORATION

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            C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
         STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                     PERIOD( 1/ 1/77 TO  1/31/77)

                        HOURLY WIND AND DIRECTION
                          A STABILITY CLASS

1/17                   4   3   4   3   3
                     ESE   E ENE ESE ESE
1/18                   2
                      NE
1/19               3   2   3           3
                 ENE NNE  NW         NNW
1/20               2   2   3   2   2
                  NE   E WSW  SW WSW
1/21               2
                 ENE
1/22                   2   2   3   2
                     SSW   S   S   E
1/23               2   3   2   4
                   W  NW  NW NNW
1/24                   3   3       3   3   3
                      NW NNE       N NNW  NW
1/25                   2
                     WSW
1/26

1/27           4
               S
1/28               1   3
                 NNE   W
1/29               2   3   2
                 NNE NNW   E
1/30                   3   3       3   2
                      NE NNE       N NNE
1/31                   2
                     NNE
                     C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                         PERIOD( 1/ 1/77 TO  1/31/77)

                             HOURLY WIND AND DIRECTION
                                B STABILITY CLASS

                                               HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1                                           3
                                             SSE
1/ 2
1/ 3
1/ 4                                               6  10   9   9   7
                                                   W WNW   N   W WSW
1/ 5
1/ 6                                                           4   5   7
                                                             SSW SSW SSW
1/ 7                                               7  11
                                                 SSW SSW
1/ 8                                                       4   6   8   7
                                                         NNW  NW  NW  NW
1/ 9                                                           2       7
                                                             ENE       S
1/10
1/11                                                               5   5
                                                                  SW SSW
1/12
1/13                                                       5       7
                                                         WSW     WNW
1/14                                                           4
                                                               N
1/15                                                      10   7   7
                                                           S   S   W
1/16                                               8           5   4
                                                  SW           S SSE
```

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                            C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                     PERIOD( 1/ 1/77 TO  1/31/77)

                                       HOURLY WIND AND DIRECTION
                                           B STABILITY CLASS

1/17                                       3
                                         ESE
1/18                                               8   8   7   8   9
                                                  SW SSW SSW SSW SSW
1/19                                                   5   4
                                                     WNW WNW
1/20                                                           8
                                                             SSW
1/21                                               7   9   8   9
                                                 SSW  SW  SW  SW
1/22                                   3                       3
                                     ESE                     NNE
1/23                                                       6   6
                                                           N  NW
1/24                                                   4
                                                       N
1/25                                               7  10  10  10  10
                                                  SW  SW  SW  SW SSW
1/26                                   5   9  10
                                       S SSW SSW
1/27                                       4   6   5   6  10  10
                                         SSW  SW  SW  SW SSW  SW
1/28                                               7   8   8   7   8
                                                 WNW   W   W WSW  SW
1/29                                                   5   8  10
                                                       N   N   N
1/30                                                   4           3
                                                       N         NNE
1/31                                       3       5   8   5   8
                                         NNE      SW SSW  SW SSW
```

C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
PERIOD(1/ 1/77 TO 1/31/77)

HOURLY WIND AND DIRECTION
C STABILITY CLASS

HOUR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1/ 1																								
1/ 2																								
1/ 3															13 SSW		7 S							
1/ 4										4 WSW						6 SSW								
1/ 5																								
1/ 6																								
1/ 7																								
1/ 8											4 WNW													
1/ 9															3 ENE									
1/10																								
1/11																								
1/12										6 S	12 SSW	12 SSW	12 SSW											
1/13																4 NE								
1/14																5 NNW								
1/15										12 S						5 SSW								
1/16																4 NNW								

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                            C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                     PERIOD( 1/ 1/77 TO  1/31/77)

                                       HOURLY WIND AND DIRECTION
                                           C STABILITY CLASS

1/17                                                                    3
                                                                      ESE
1/18

1/19

1/20                                                                    7
                                                                      SSW
1/21                                                1
                                                  NNE
1/22                                            1
                                              ESE
1/23                                        3                           4
                                          WNW                          NW
1/24                                            1
                                               NE
1/25

1/26                                                   13  13      12  14
                                                      SSW SSW     SSW SSW
1/27                                                                   12
                                                                       SW
1/28

1/29

1/30                                        1   2
                                          SSE   E
1/31                                                                    6
                                                                      SSW
```

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                    C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                  STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                             PERIOD( 1/ 1/77 TO  1/31/77)

                                HOURLY WIND AND DIRECTION
                                   D STABILITY CLASS

                                          HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1                                      4      14  16  16  15  16  17  17  14  16  14  16  13      14
                                         SE     SSW SSW SSW  SW  SW SSW SSW SSW SSW SSW SSW  SW     SSW
1/ 2     15  16  15  15  14  17  15  14  15  16  16  15  15  15  17  17  12  11  13  10   9  19  19  13
        SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW SSW   S SSW   S SSW   S   S
1/ 3     15  12  13   9   8   7  10  11  13  13  18  19  15  17      15       3  12   4   7      15  15
          S   S SSE SSE SSE SSE SSE SSE SSE SSE   S   S   S   S       S     SSW  SW WNW  SW     SSW SSW
1/ 4     15                                                               6   3           0
        SSW                                                              SW NNE          SE
1/ 5                              2           1   0   1               5   5   3   3   2
                                SSW         WSW  NW   N             WNW WNW WNW   W WNW
1/ 6                                                                      8
                                                                        SSW
1/ 7                                                     15  16  16  17   8
                                                         SW  SW SSW SSW SSW
1/ 8                                          3                           9  10   9   9
                                              W                          NW  NW  NW WNW
1/ 9                                          2                          11  14  15
                                             SE                         SSW   S SSW
1/10                                     12  16  17  14  14  14  12  14  11   7
                                          S   S SSW SSW SSW   S   S SSW SSW   S
1/11                                              2                       6
                                                 NE                     SSW
1/12                                                         17  17  13   4   3
                                                             SW SSW  SW  SW WSW
1/13                                                                      2
                                                                        SSE
1/14                                                                      6   3
                                                                         NW WNW
1/15                     14  15  14              14  15
                          S   S   S               S SSW
1/16                                                                      1
                                                                          W
```

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              C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                     PERIOD( 1/ 1/77 TO  1/31/77)

                        HOURLY WIND AND DIRECTION
                           D STABILITY CLASS

1/17                                                                                          4
                                                                                             SE
1/18
1/19                                                                                     2
                                                                                       NNE
1/21                                                                                     5    3
                                                                                       SSW    S
1/22                     5    4    4              3                                       1    1    1    0    2    3    2    2
                       SSE  ESE   SE             SE                                     NNW  WNW  WSW  SSW   SW  WSW  WSW  WNW
1/23      2    3    3    2    3    2    3    3    3                                            5
        WNW  WNW  WNW   NW  WNW  WNW  WNW  WNW  WNW                                           NW
1/24
1/25                                                   2    2
                                                     ESE  NNE
1/26                                                                           15             13
                                                                              SSW            SSW
1/27
1/28                                                   2
                                                       E
1/29                                                                                      9
                                                                                          N
1/30                                                                                           1
                                                                                               N
1/31                                                                                           5
                                                                                               S
```

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                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
             STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                        PERIOD( 1/ 1/77 TO  1/31/77)

                          HOURLY WIND AND DIRECTION
                             E STABILITY CLASS

                                              HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1    10   9  13   8  10   3   3   4                                                          13
       SSW   S   S SSW   S SSE SSE WSW                                                         SSW
1/ 2
1/ 3                                                                                         8
                                                                                            SW
1/ 4        11   9   5   5   3   3       5                                       2   4       2       1
           SSW  SW  SW  SW  SW  SW      SW                                     ESE  NW      SE      NW
1/ 5     0   1   1                   1   0                                               4   3   3   1
        NW WSW SSW                  SE  SW                                             WNW WNW   W   W
1/ 6                                         1   2                           5
                                           ESE  NE                           S
1/ 7         3           8   6   7   6   7                                   7   8   4   4   7   6   3
           SSE         SSE SSE SSE  SE SSE                                   S SSE ESE SSE SSE  SE  SE
1/ 8     5   3   3   3                   3                                               9   9   6   6
       ESE  SE  SE   E                   W                                             WNW  NW WNW WNW
1/ 9     6                                                                           6   4   6   6
       WNW                                                                           S  SE   S   S
1/10             8       4       9  11                                       9           3
                 S      SE       S   S                                       S           S
1/11                                                                         8
                                                                             S
1/12                                     8                                       7   4   2   3   3   3
                                         S                                       S SSE  NE WSW SSE   S
1/13     3                           1   0   2                               2   3
         S                          SE ESE   E                               S  SW
1/14                                                                             2   3       3
                                                                                SW   S     SSW
1/15                14                  11  11                           4
                     S                   S   S                         SSE
1/16            10   9                                                       2   1   3   3
                 S SSW                                                       S   S   W   W
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              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                     PERIOD( 1/ 1/77 TO  1/31/77)

                        HOURLY WIND AND DIRECTION
                           E STABILITY CLASS

1/17                                         2                                   4   3
                                            SE                                  SE ESE
1/18                                                                      10
                                                                         SSW
1/19                                         3                               1               0
                                             E                               E             NNE
1/20                                         2                               8   4
                                           ESE                             SSW   E
1/21                                         5                                   4   4
                                           SSE                                 SSE SSE
1/22         4   5               4   5
           SSW SSW              SE  SE
1/23                                                                               2   1   0   1   2   1
                                                                                 NNW NNW NNW NNW NNW   N
1/24     2   1                               1                               3       9
         N  NE                             ESE                             NNW     SSW
1/25                                                                         9  10   3
                                                                           SSW SSW SSE
1/26                                                                            12  11   3   2
                                                                               SSW   S ESE  SE
1/27                                                                        10  10   8
                                                                            SW SSW SSW
1/28                                                                         9
                                                                           SSW
1/29                                         2                               5   1       1
                                             E                             NNE   N     SSE
1/30
1/31                                         2                                                       9
                                           ESE                                                     SSE
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RADIAN
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                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                        PERIOD( 1/ 1/77 TO  1/31/77)

                          HOURLY WIND AND DIRECTION
                              F STABILITY CLASS

                                                       HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24

1/ 1

1/ 2

1/ 3

1/ 4                                     7                                                                          1
                                       SSW                                                                        SSW
1/ 5                     1    2    0
                         S  SSW    E
1/ 6      0    0    1    2    4    2    2    0    0                                              6    3    1    0    2    2
         SE  WSW   NE  ESE   SE  ESE   SW  SSE   SW                                            ESE    S    N   NE   SE  SSE
1/ 7      2         4    5
        SSE        SE  SSE
1/ 8                          2    4    5    4
                              E   SE  SSE  SSE
1/ 9           4         3    1    1    0    2    2                                                                      3
             WNW         W  WSW   SW    W  ESE   SE                                                                     SE
1/10      4    6         4         4                                                                  6    3         4    2
         SE  SSE        SE       SSE                                                                  S  SSE        SE  ESE
1/11      3    1    2    3    2    2    1    0    1    3                                              5    4    6    5    3    3
          S    E    S    S    S  SSW  NNE    E  ENE  ESE                                             SE  ESE   SE  ESE  ESE   SE
1/12      2    5    4    5    6    5    3    4
        SSE  SSE   SE   SE   SE  ESE   SE  SSE
1/13           3    2    2    2    4    2                                                             4    3    2    2    2
              SE  ESE   SE  ESE   SE  SSE                                                            SW   SW    W  SSW  WSW
1/14      1    0    0    1    0    5    2    1    2    1                                                   2         5    4
          E  NNE    E  NNE   NE   SE  SSE   SE    S   NE                                                  SE         S  SSW
1/15      6    9    7                                                                            5    7    5    3    3    4    4
          S    S    S                                                                          SSE  SSW  SSW  SSW    S  SSW    S
1/16      5    6              4    3    5    6    4    5                                                        3    2    1
        SSE  SSE              S  SSE  SSW  SSW    S  SSE                                                        W  WSW  SSE
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                       C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                      STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                               PERIOD( 1/ 1/77 TO  1/31/77)

                                  HOURLY WIND AND DIRECTION
                                     F STABILITY CLASS

1/17     2    4    4    3    1    3    4    6    5                                                           1    2    2    0
       SSW  SSW  SSW    S  SSE   SE    S    S    S                                                          SE   NE    N   SE
1/18     2    1    1    1    2    2    1    2    2    3                                        2    2    3    3    7    3
       NNW    S  SSE    W    W  ESE    S  SSE  SSE   SE                                      ESE   SE  ESE   SE    S   SE
1/19     5    2    8    7    3    6    1    2    2                                             3    1    0         0    1
         S  SSE  SSW    S  ESE  SSE    N  ENE    E                                           SSE  SSW    N       ENE  ESE
1/20     0    0    2    3    2    2    1    4    2                                                  6    4    3    3    4
       ESE    E   SW    S  SSE   SE    S    S    S                                                 SE  ESE  ESE  SSE   SE
1/21     2    1    2    2    2    1    2    3    2                                                       3    3    3    5
       SSE  ENE  ENE  ESE   SW   SE  ESE   SE  ESE                                                       S  SSE    S  SSW
1/22     7
       SSW
1/23

1/24               2    3    3    3    2    2    1                                             3         5    1    2    2
                   E    E    E    E    E    E  ESE                                           WSW       SSW    S   SE  ESE
1/25     3    3    2    2    2    2    2    2    2                                                       2    2    3    4
       ESE  ESE  ESE  SSE    S  ESE  SSE   SE   SE                                                      SE  ESE   SE   SE
1/26     3    5    4    4    3    3    2    2    2                                                                 3    2
       SSE  SSE   SE  SSE   SE    S  SSE   SE   SE                                                               ESE  ESE
1/27     3    2    3    2    3    3    4    2    2                                                       3    2    2    2
       SSE  SSW    S   SE   SE  SSE    S   SE  ESE                                                     SSE  SSE   SE  SSE
1/28     1    2    1    1    3    1    4    3    4                                             9    7    2    1    4    1
       SSE    S  SSW   SE    S  SSW   SE   SE    S                                           SSW  SSW   SE   SE  SSW  SSE
1/29     1    1    0    3    2    3    4    4    5                                                  3         2    1    1
       SSE    S    E    S   SE   SE  ESE  SSE    S                                                  E       WSW  WSW  NNE
1/30     0    0    0    0    2    1    0    0    1                                             3    5    2    2    1    2
         N   SW   SW   NW   SW    N    S    E   NW                                             S    S    S  SSW    S    S
1/31     2    3    1    3    3    2    2    2    4                                             2    5    5    5    5
       SSE  SSE   SE  ESE   SE    S   SW   SE  ESE                                            SE  SSE   SE  ESE  SSE
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C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(1/ 1/77 TO 1/31/77)

HOUR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1/ 1	D	D	D	B	B	B	D	A	A	A	D	D	D	D	D	D	D	C	D	C	D	C	D	D
1/ 2	D	D	C	C	C	D	D	C	D	D	D	D	D	D	D	D	C	B	C	B	B	D	D	C
1/ 3	D	C	C	B	B	B	B	B	C	C	D	D	D	D	C	D	B	A	B	A	B	B	C	C
1/ 4	C	C	B	B	D	D	D	E	D	A	B	B	B	B	B	B	B	A	C	A	A	D	D	D
1/ 5	A	C	C	D	E	D	A	D	C	A	A	A	A	A	A	B	A	A	A	A	A	A	B	A
1/ 6	B	D	D	D	F	E	E	E	E	D	C	A	A	B	B	B	B	D	E	E	E	E	E	E
1/ 7	F	D	E	D	D	D	C	D	B	A	B	B	D	D	D	D	B	B	D	C	B	B	B	B
1/ 8	B	D	D	E	E	D	E	E	D	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B
1/ 9	C	D		D	D	C	D	D	D	A		A	A	A	A	B	C	C	C	B	C	B	B	D
1/10	D	D	D	D	D	D	B	B	B	D	D	D	D	D	C	D	B	B	C	D	D	D	E	E
1/11	E	F	E	E	F	F	E	E	F	E	A	A	A	A	B	B	B	D	E	F	F	F	F	F
1/12	F	E	F	F	F	F	E	D	D	B	C	C	C	D	D	C	A	A	D	C	C	D	D	D
1/13	D	D	E	D	E	D	D	D	D	C	A	A	B	A	B	B	A	A	D	D	E	E	E	E
1/14	E	E	E	E	F	F	F	F	F	E	A	A	A	B		B	B	A	A	A	D	D	E	E
1/15	D	E	E	E	D	D	D	E	D	C	D	D	B	B	B	B	C	E	E	E	E	D	E	E
1/16	D	E	E	D	E	F	F	F	F	E	B	A	A	B	B	B	A	A	D	D	D	E	E	E
1/17	E	F	F	E	E	E	E	E	E	D	A	A	A	A	A	A	A	D	D	D	E	E	E	E
1/18	F	F	E	F	F	E	F	F	F	F		A	B	B	B	B	B	D	E	E	F	F	E	F
1/19	E	E	F	F	F	F	F	F	E	E	A	A	A	B	B	A	A	D	E	F	E	E	E	E
1/20	E	F	F	F	F	F	E	F	F	E	A	A	A	A	A	B	B	E	E	F	E	E	E	F
1/21	F	F	F	F	F	E	E	F	E	D	A	A	B	B	B	B	B	B	D	E	E	E	E	E
1/22	E	D	B	B	A	B	D	D	A	A	A	A	A	A	A	A	A	B	A	A	A	A	A	A
1/23	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	A	B	B	D	D	D	D	B
1/24	A	B	E	E	E	F	F	E	F	E	A	A	A	B	A	A	A	A	E	E	F	E	E	E
1/25	E	E	F	F	F	F	E	F	E	D	A	A	B	B	B	B	B	D	D	D	E	E	E	E
1/26	F	F	E	F	E	D	E	E	D	B	B	B	C	C	D	C	C	B	C	D	D	D	F	E
1/27	F	E	E	F	F	E	E	E	E	A	B	B	B	B	B	B	C	C	D	D	D	E	F	E
1/28	F	F	F	F	F	E	F	F	E	A	A	A	B	B	B	B	B	D	F	F	E	E	F	E
1/29	E	F	F	E	F	F	F	E	F	D	A	A	A	B	B	B	B	D	D	D	D	E	E	E
1/30	F	E	E	F	E	F	E	F	F	D	A	A	A	B	A	A	A	A	E	F	E	E	E	E
1/31	F	F	E	F	F	E	E	F	F	D	A	A	B	B	B	B	B	B	E	E	E	E	E	E

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                      C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                  STABILITY CLASS DETERMINAITON USING DT/DZ (LEVEL 2)
                               PERIOD( 1/ 1/77 TO  1/31/77)

                                 HOURLY WIND AND DIRECTION
                                    A STABILITY CLASS

                                          HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1                                 5   4   3
                                    SW  SE SSE
1/ 2
1/ 3                                                                         4       5
                                                                            SW     WNW
1/ 4                                         4                               3       5   0
                                           WSW                             NNE      NW NNW
1/ 5     0                           2           1   0   0   2   2   2       5   4   3   3   5   5       1
         N                         SSW           W   W   N WNW  NW WNW      NW WNW   W WNW WNW WNW      NW
1/ 6                                                 2   5
                                                     S  SW
1/ 7                                         3
                                             S
1/ 8                                         4   3   2
                                             W WNW WNW
1/ 9                                         2       2   1   2   3
                                            SE       E ESE ENE ENE
1/10
1/11                                             1   2   2   4
                                                NE  NE  NW WSW
1/12                                                                     6   4
                                                                        SW WSW
1/13                                             3   3       3           2   2
                                                SE ESE     WSW         SSE SSW
1/14                                             1   2   3               3   2   3
                                                NE   N   W             WNW WSW SSW
1/15
1/16                                                 3   1               1   2
                                                   SSW WSW               W SSW
```

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                C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                       PERIOD( 1/ 1/77 TO  1/31/77)

                         HOURLY WIND AND DIRECTION
                            A STABILITY CLASS

1/17                                                       3    3    3    4    3    3    3
                                                         ESE  ESE    E    E  ESE  ESE  ESE
1/18                                                            2
                                                               NE
1/19                                                       3    2    3              2    2
                                                         ENE  NNE  NNW             NW    N
1/20                                                       2    2    4    2    2
                                                          NE   NW    W  WSW  WSW
1/21                                                       2    1
                                                         ESE  NNW
1/22                         6                        5    3    2    3    2    3    2    3    1         2    2    4    3    2    2
                            SE                       SE  ESE  SSE  SSW  SSW    S  ESE  NNE  ENE        SW  WSW  WSW    W  WNW   NW
1/23     3    3    3    3    3    2    3    3    2    3    2    3    2    4              5
       NNW  NNW   NW   NW   NW  WNW  NNW  WNW  WNW  WNW    W   NW   NW  NNW             NW
1/24     2                                                 1    3    4         3    3    3    4
         N                                               WSW  WNW  NNE        NW  NNW   NW  NNW
1/25                                                       2    2
                                                          NE   NW
1/26
1/27                                                  6
                                                    SSW
1/28                                                  2    1    4
                                                     SE  NNE   NW
1/29                                                       2    3    2
                                                          NE    N  NNW
1/30                                                       2    3    3         4    2    3    1
                                                           E   NE  NNE       NNE  NNE  NNE  NNE
1/31                                                       2    3
                                                          NE  ENE
```

```
                  C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                         PERIOD( 1/ 1/77 TO  1/31/77)

                             HOURLY WIND AND DIRECTION
                                 B STABILITY CLASS

                                        HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1                11  14   5
                   SSW SSW   S
1/ 2                                                                          13      12  11
                                                                             SSW     SSW SSW
1/ 3                10   9   8  11  13                                     8      13       8  10
                     S SSE SSE   S   S                                     S      SW      SW  SW
1/ 4            11   7                           6  10  10   9   7   7   7
                SW  SW                           W WNW WNW   W WSW SSW  SW
1/ 5                                                                 5                           3
                                                                    NW                          NW
1/ 6     0                                                   5   6   7   9
       SSW                                                 SSW SSW SSW SSW
1/ 7                                 9       7  12                       9   9           4   8   8   5
                                     S     SSW SSW                     SSW SSW         SSE   S SSE  SE
1/ 8     7                                           4   6   8   7   9  11  10  10  10  10   7   8
       ESE                                         WNW  NW  NW  NW  NW  NW  NW  NW  NW  NW  NW WNW
1/ 9                                                                 7               7       8   7
                                                                   SSW             SSW     SSW SSW
1/10                        11  15  16                                  13  10
                           SSW SSW SSW                                 SSW SSW
1/11                                                             5   5   7
                                                                SW SSW SSW
1/12                                     7
                                       SSW
1/13                                                 5       7   4
                                                   WSW     WNW  NE
1/14                                                     5       5   6
                                                         W     WNW  NW
1/15                                                11   8   7   5
                                                   SSW SSW   W  SW
1/16                                         2           5   4   4
                                            SW           S SSE WNW
                   C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILTIY CLASS DETERMINAITON USING DT/DZ (LEVEL 2)
                           PERIOD( 1/ 1/77 TO  1/31/77)

                             HOURLY WIND AND DIRECTION
                                B STABILITY CLASS

1/17
1/18                                                 9   8   7   9  10
                                                    SW SSW  SW SSW SSW
1/19                                                     5   4
                                                       NNW NNW
1/20                                                             9   9
                                                               SSW SSW
1/21                                                 7   9   9  10   6   4
                                                   SSW  SW  SW  SW  SW SSW
1/22         8   5       6                                           0
           SSW SSE      SE                                          SE
1/23                                                         6   6       6   3                   1
                                                           NNE   N      NW   N                 NNW
1/24     1                                               5
         E                                             NNE
1/25                                                 7  10  11  11  12
                                                    SW  SW  SW  SW  SW
1/26                                     6  10  11                      17
                                         S SSW SSW                     SSW
1/27                                         4   7   6   7  10  10
                                            SW  SW  SW  SW SSW  SW
1/28                                                 7   8   8   7   8
                                                   WNW   N   W   W  SW
1/29                                                     5   8  10   9
                                                       NNW NNW   N   N
1/30                                                     5
                                                         N
1/31                                                 5   8   6   9   7   6
                                                    SW  SW  SW SSW SSW SSW
```

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          C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
        STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                 PERIOD( 1/ 1/77 TO  1/31/77)

                    HOURLY WIND AND DIRECTION
                       C STABILITY CLASS

                                                         HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24

1/ 1
                                                                                              16        17        17
                                                                                              SW       SSW        SW
1/ 2               18   19   18             16
                  SSW  SSW  SSW            SSW                                           14        15                       15
1/ 3          13   14                                                                   SSW       SSW                        S
                                                 15   14                       14                                      19   17
               S    S                           SSE  SSE                      SSW                                      SW   SW
1/ 4     18   14
         SW   SW                                                                                    3
1/ 5           1    1                             0                                                 E
             NNW    N                            SW
1/ 6                                                        2
                                                            E
1/ 7                                    9
                                        S                                                               4
1/ 8                                                                                                   SE
1/ 9      7                        0                                                     13   17   18         4
         NW                      WSW                                                    SSW  SSW  SSW       SSE
1/10
                                                                               12                  12
                                                                              SSW                 SSW
1/11
1/12
                                                           13   12   13             15                   4    3
                                                          SSW   SW  SSW             SW                 SSW  WSW
1/13
                                                       2
                                                     ESE
1/14
1/15
                                                      13                                  3
                                                       S                                 SE
1/16
```

```
                    C-A SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                  STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                           PERIOD( 1/ 1/77 TO  1/31/77)

                              HOURLY WIND AND DIRECTION
                                C STABILITY CLASS

1/17

1/18

1/19

1/20

1/21

1/22

1/23

1/24

1/25

1/26                                                    14  14      13  16      16
                                                       SSW SSW     SSW SSW     SSW
1/27                                                                    13  13
                                                                        SW  SW
1/28

1/29

1/30

1/31
```

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                         C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                   STABILITY CLASS DETERMINATION USING DT/D7 (LEVEL 2)
                                  PERIOD( 1/ 1/77 TO  1/31/77)

                                     HOURLY WIND AND DIRECTION
                                        D STABILITY CLASS

                                              HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


1/ 1    14  12  13               5              15  17  17  16  18  19  19      20      19      16  18
       SSW SSW SSW               S             SSW SSW SSW  SW  SW  SW  SW     SSW     SSW     SSW SSW
1/ 2    19  20              20  20      18  18  18  16  17  16  18  19                      22  22
       SSW SSW             SSW SSW     SSW SSW SSW SSW SSW  SW SSW SSW                     SSW   S
1/ 3    18                                      19  21  16  18      16
         S                                       S   S SSW   S       S
1/ 4                       7   5   4       7                                                  1   0   0
                         WSW WSW WSW      SW                                                 SE  SE WNW
1/ 5                   1       0       1
                       S     ESE     SSE
1/ 6         0   0   2                       2                               7
           WSW ENE ESE                      SE                               S
1/ 7         5       7   7   6       7                   15  17  18  19              9
             S     SSE   S   S     SSE                   SW  SW SSW SSW              S
1/ 8         4   2           3           3
            SE SSE         ESE           W
1/ 9         7       3   1       0   0   1                                                           4
           WNW     WNW WNW      NW ESE  SE                                                           S
1/10     5   7  11   5   6   7              19  19  16  15  16      16              8   5   5
       SSE   S SSW   S   S SSW             SSW SSW SSW SSW SSW     SSW             SSW SSW SSW
1/11                                                                         9
                                                                             S
1/12                                   6  10                  19  19              8           4   4   4
                                       S SSW                  SW  SW             SSW         WSW   S SSW
1/13     4   4       2       3   2   1   1                                       3   3
       SSW   S       S      SE SSW   S   S                                     WSW  SW
1/14                                                                                     2   6
                                                                                         S SSW
1/15     8               17  17  15      15      14  16                                      2
       SSW                S   S   S     SSW       S SSW                                     SSW
1/16     5          13                                                           2   3   5
         S         SSW                                                         WSW WNW WNW
```

```
                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                          PERIOD( 1/ 1/77 TO  1/31/77)

                             HOURLY WIND AND DIRECTION
                               D STABILITY CLASS

                                                            3                                       5    6    3
1/17                                                        S                                      SE   SE    E
                                                                                                   14
1/18                                                                                              SSW
                                                                                                    1
1/19                                                                                              ENE

1/20
                                                            6                                            4
1/21                                                      SSE                                          SSE
                    5                        6    7
1/22              SSW                       SE  SSE
                                                                                                              2    1    2    2
1/23                                                                                                        WNW    N  NNW   NW

1/24
                                                            2                                      11   13    5
1/25                                                      SSE                                      SW  SSW  SSW
                                        6              3                            16                       13    3    3
1/26                                  SSW              S                            SW                        S  SSE    S
                                                                                                        15   12    5
1/27                                                                                                   SSW  SSW    S
                                                                                                   12
1/28                                                                                               SW
                                                            2                                       6    3    4    2
1/29                                                      ESE                                     NNE    N  ENE   SE
                                                            1
1/30                                                        S
                                                            2
1/31                                                       SE
```

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               C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                      PERIOD( 1/ 1/77 TO  1/31/77)

                        HOURLY WIND AND DIRECTION
                          E STABILITY CLASS

                                              HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24


1/ 1

1/ 2

1/ 3

1/ 4                                        8
                                           SW
1/ 5                         1
                           WSW
1/ 6                         3    2    2    0    0                                               4    3    1    0    2    5
                           ESE  ESE  SSW   NE    N                                             ESE  SSW    N    E    S  SSW
1/ 7      3         5
        SSW       SSE
1/ 8                    3    1         4    3
                      ESE    S        SE  SSE
1/ 9

1/10                                                                                                                  5    2
                                                                                                                      S    S
1/11      6    1    3    7              1    0         1                                            7
        SSW  SSW  SSW  SSW              S   NE       ESE                                          SSE
1/12           5              7    5    5
             SSE            SSE   SE  SSE
1/13                1         1                                                                             3    2    1    0
                  SSW       ESE                                                                           WSW    N  ESE  WNW
1/14      0    0    0    0                        0                                                                   8    6
         NW   NW  ENE   SW                        W                                                                 SSW  SSW
1/15          12   10   15                  14                                               3    7    7    3         6    4
             SSW    S    S                 SSW                                               S  SSW   SW   SW        SW  SSW
1/16           6   13         6    3              5                                                            3    2    1
               S  SSW       SSW  SSW              S                                                          WNW    W   SW
```

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(1/ 1/77 TO 1/31/77)

HOURLY WIND AND DIRECTION
E STABILITY CLASS

1/17	2 SSW			7 SSW	4 SSW	3 S	7 SSW	9 SSW	8 SSW											0 ENE	2 NE	3 N	1 NE
1/18	1 W		1 SE			1 SSE													4 S	2 SE			11 SSW	
1/19	6 S	4 S							1 ESE	2 NE									2 SE		1 W	0 W	0 SSW	0 SSE
1/20	0 E	1 ESE			2 SSW		2 SSW		6 SSW	3 SSW								10 SSW	4 E		2 ESE	2 E	2 SSE	
1/21					2 SW	1 SW	2 ESE		2 SE											5 SSE	3 SSW	2 S	3 SSW	5 SW
1/22	8 SW																							
1/23																								
1/24			2 SSE	3 WNW	2 SSE	3 SSW		2 S	4 SSW	3 S									3 WNW	10 SSW		5 SW	3 SSW	2 S
1/25	1 SE	1 ESE		2 S	3 SSW	1 ESE	1 SSE		1 SE												3 SSW	1 ESE	2 SE	3 SSE
1/26	5 SSW		3 SSE	4 S	3 S		4 SSW	3 SSW															2 SE	3 SSE
1/27	3 SSE	8 SSW	5 SSW	2 SSE	3 SSE	4 S	7 SSW	4 SSW	2 S													3 SSW	2 S	4 SSW
1/28	3 SSW				5 SSW	4 SSW			7 SSW												2 SSE	1 SSE		2 SW
1/29	0 SSE			4 SSW	3 SSW			2 SE														1 WSW	2 W	2 WSW
1/30	0 NW	6 WNW	1 WSW	1 W	2 SW		0 SW												2 SSE		5 SSW	5 SSW	4 SSW	6 SSW
1/31			1 S			2 S	2 SSW												2 SSE	4 SSE	5 SSE	6 SE	7 SSE	10 S

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                          C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                      STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                PERIOD( 1/ 1/77 TO  1/31/77)

                                  HOURLY WIND AND DIRECTION
                                      F STABILITY CLASS

                                            HOUR
        1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

1/ 1

1/ 2

1/ 3

1/ 4

1/ 5

1/ 6

1/ 7

1/ 8

1/ 9

1/10

1/11                    7   5           0                                           3   7   3   2   1
                      SSW SSW          SW                                          SE SSE  SE  SE  SE
1/12    1       4   7
       SE     SSE   S
1/13

1/14                    2   5   3   4   5
                      NNE  SE  SE SSE SSE
1/15

1/16                            7   6   4
                               SW  SW  SW
```

```
                C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINAITON USING DT/DZ (LEVEL 2)
                        PERIOD( 1/ 1/77 TO  1/31/77)

                          HOURLY WIND AND DIRECTION
                              F STABILITY CLASS

1/17           5   10
              SW  SSW
1/18           2         0    2         2    3    4    4                                                      2    3         4
             ESE       NNE    W         S    S    S  SSE                                                     SE   SE         S
1/19               12    9    3    5    2    2                                                           1
                  SSW  SSW  SSE  SSE    W   NE                                                         ESE
1/20                1    2         1         7                                                           5                   4
                  SSW    S       SSE       SSW                                                          SE                 SSE
1/21      2    0    2    2                   4
         SW   NW  ENE   SE                  SE
1/22
1/23
1/24                                        1                                                                     9
                                          SSE                                                                   SSW
1/25                0                        0
                   NE                      SSE
1/26           6
               S
1/27
1/28           6    3    3              4    3                                                     10    8              4
             SSW  SSW  SSW            SSE    S                                                     SW   SW             SW
1/29           0    1              3    2         5
             SSW  SSW            SSE  ESE       SSW
1/30                               1         1    0                                                      4
                                 NNW       ESE  NNW                                                      S
1/31      4    4         2    2              1    2
        SSW  SSW       SSE  SSE            SSE  SSE
IPYSTAR
```

APPENDIX A

STABILITY WIND ROSE DIAGRAMS

APPENDIX A

STABILITY WIND ROSE DIAGRAMS

According to the data presented in AEC Safety Guide No. 23, the relationships between stability classes and σ_Θ are as follows (the values shown are averages for each stability classification...σ_Θ is the standard deviation of horizontal wind direction fluctuations).

Stability Classification	Pasquill Categories	Average Values σ_Θ (degrees)
Extremely Unstable	A	25.0°
Moderately Unstable	B	20.0°
Slightly Unstable	C	15.0°
Neutral	D	10.0°
Slightly Stable	E	5.0°
Moderately Stable	F	2.5°

Stability wind roses obtained at the trailers in the monitoring network are displayed in the following tables. Because of the relatively low heights above the surface (9 meters) at which the wind data is taken, the stability distributions are skewed toward the unstable end of the spectrum. That is, the unstable classes (A, B, and C) have a much higher frequency of occurrence than would be obtained with the Pasquill method of stability categorization (or with instruments at higher levels).

Table 1 depicts the frequency distribution of Pasquill stability categories based on σ_Θ from data collected by M. M. Pendergast and T. V. Crawford at the Savannah River Plant ("Actual Standard Deviations of Vertical and Horizontal Wind Direction Compared to Estimates from Other Measurements", Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974). Three distinct range patterns of stability class

distributions were observed: low, mid, and high, according to the height at which the σ_Θ measurements were taken.

TABLE 1

FREQUENCY DISTRIBUTION OF PASQUILL STABILITY CATEGORIES

Height, m	Stability Categories based on σ_θ							
	A $\sigma_\theta > 23$	B $18 \leq \sigma_\theta < 23$	C $13 \leq \sigma_\theta < 18$	D $8 \leq \sigma_\theta < 13$	E $4 \leq \sigma_\theta < 8$	F $2 \leq \sigma_\theta < 4$	G $\sigma_\theta < 2$	
10	22.6	13.9	21.8	28.9	8.9	0.4	3.5	LOW RANGE
35	19.3	11.3	19.4	32.4	15.9	0.7	0.5	
91	9.6	6.7	13.5	21.7	29.5	15.4	2.5	MID RANGE
137	9.3	5.3	11.7	20.8	28.5	18.4	5.5	
182	7.0	2.9	6.8	17.1	25.9	25.6	14.7	HIGH RANGE
243	7.7	4.3	9.4	17.7	27.6	22.9	10.4	
304	7.2	3.7	8.0	17.2	28.7	23.9	11.3	

Also, Figure 1 (from D. H. Slade, Meteorology and Atomic Energy, 1968, p. 52) demonstrates that the line representing very stable conditions (which by their nature are associated with light winds) branches into three separate lines near the ground. The curve at the left represents the smallest values of σ_Θ usually observed. The curve that branches off to the right reflects the contribution of very low-level wind direction meander to the total standard deviation. These meandering oscillations decrease in amplitude very rapidly with height under stable conditions. The central curve represents typical inversion conditions. Actually, for a given stability condition, values of σ_Θ will always be greater when the wind is light than when it is strong. This phenomena is most noticeable in the lowest layers.

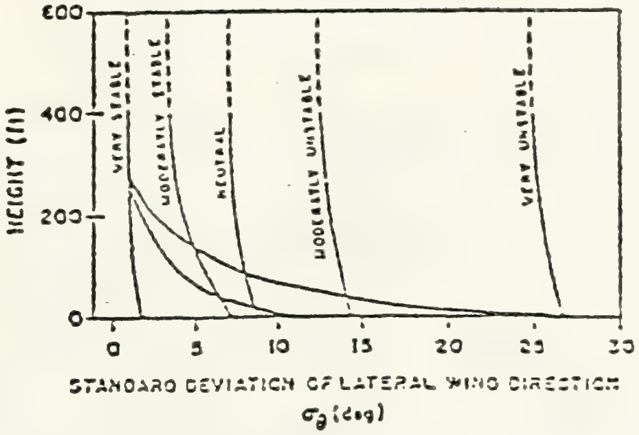

FIGURE 1

The vertical variation of the lateral wind-direction standard deviation (σ_Θ) for various stability regimes. The curves represent average or typical conditions with the exception of the two outer "very stable" lines, which represent extremes.

The large surface values of σ_Θ for unstable conditions do not decrease very rapidly with height. As in the case of very stable conditions, the greatest lateral fluctuations during a very unstable thermal structure occur with very light winds. As a general rule, for a given insolation condition, increasing wind speeds are associated with profiles of σ_Θ that tend toward neutral stability.

The majority of the trailers in the network recorded very light winds throughout the month. Therefore, the stability distributions had a predominance of high σ_Θ values and, hence, unstable classifications. Those trailers with the highest average winds (and fewest nearby obstacles to the flow) generally had the more reasonable and representative low-level stability class distributions.

```
                                   STABILITY WIND ROSE DIAGRAM

                                     C-B SHALE OIL PROJECT
                         LEVEL =  6 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - A
                                                           WIND DIRECTION
                      N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     10.    8.   7.   3.   4.   5.   6.   8.   7.   8.   9.   6.   9.   7.   5.   7.
    MPH


   GT   24     :                                                                                  :      0.

  18 -  24     :                                                                                  :      0.

  12 -  18     :                                                                                  :      0.

   7 -  12     :      6    2    1                        1    4    6    4         4    2         4 :   34  3.

   3 -   7     :     30   18   13    6   11   10   18   14   19   23   41   17   17    8   10   27 :  279 22.

   LT    3     :     59   63   75   99   98   73  101   52   59   53   42   38   38   26   15   45 :  939 75.

    TOTAL      :     95   83   89  105  109   83  119   67   82   82   87   55   59   36   25   76 : 1252

   PERCENT     :     8.   7.   7.   8.   9.   7.  10.   5.   7.   7.   7.   4.   5.   3.   2.   6. :     100.
                 ..........................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -      365(  29.15 %)
```

```
                                      STABILITY WIND ROSE DIAGRAM

                                         C-B SHALE OIL PROJECT
                           LEVEL =  8 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - D                                          WIND DIRECTION
                     N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     7.   4.   5.   3.   4.   5.   4.   9.  10.  14.  14.   8.  10.   7.   6.   9.
     MPH
                                                                                                 :       0.
   GT   24     :
                                                                                                 :       0.
  18 -  24     :
                                                              6    1                             :    7  1.
  12 -  18     :
                                                    4   15   17   11    3    6    1            2 :   60  9.
   7 -  12     :     1
                     5    9    9   11    8   16    8   18   27   34   21   15   13   18    7    1 :  220 32.
   3 -   7     :
                    12   25   32   30   54   40   36   21   39   37   16   13   13   27    9    4 :  408 59.
   LT    3     :
                    18   34   41   41   62   56   44   43   81   94   49   31   32   46   16    7 :  695
    TOTAL      :
                                                                                                 :      100.
   PERCENT     :    3.   5.   6.   6.   9.   8.   6.   6.  12.  14.   7.   4.   5.   7.   2.   1.
                ...........................................................................................

                       TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         94(  13.53 %)
```

```
                                  STABILITY WIND ROSE DIAGRAM

                                    C-B SHALE OIL PROJECT
                          LEVEL =  8 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - C
                                                           WIND DIRECTION
                       N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW   TOTAL  %
GROUP MAX SPEED       7.    6.   5.    5.   5.    5.   9.   13.  19.   17.  15.   13.   8.   10.   9.   7.
     MPH


   GT    24     :
                                                                                                       :        0.
 18 -    24     :
                                                                 2                                     :     2  0.
 12 -    18     :
                                                           7    69   154   14     1                    :   245  8.
  7 -    12     :      1                               1   40   142   360   59     9     4   26    11   1 :   654 22.
  3 -     7     :     10    14   23    18   29    55   67   98   103   181   77    34    20   85    46   3 :   863 29.
  LT      3     :     23    42   58    91  143   131  101   85    97   137   85    45    61   86    37   2 : 1224 41.
   TOTAL        :     34    56   81   109  172   186  169  230   413   832  235    89    85  197    94   6 ; 2988
  PERCENT       :     1.    2.   3.    4.   6.    6.   6.   8.   14.   28.   8.    3.    3.   7.    3.  0. :      100.
                  .........................................................................................................
                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          239(   8,00 %)
```

RADIAN CORPORATION

```
                                          STABILITY WIND ROSE DIAGRAM

                                              C-B SHALE OIL PROJECT
                                 LEVEL =  8 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - D
                                                         WIND DIRECTION
                     N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED      0.   6.   7.   4.    5.   5.    6.   13.  24.  16.  15.  10.   7.   8.   9.   5.
     MPH
                                                                                                    :         0.
   GT   24    :
                                                                  4                                 :     4  0.
   18 -  24   :
                                                           1   71   54    5                         :   131  4.
   12 -  18   :
    7 -  12   :    4         1                            24  181  139    9    1    1    5   10      :   375 11.
    3 -   7   :   15   12   34   56   43   79  149  170  144  132  122   22   23   59   31    2 : 1093 33.
   LT    3    :   26   35   61  131  146  181  166  129  122  188  292   53   55   70   32    7 : 1694 51.
    TOTAL     :   45   47   95  187  189  260  315  324  522  513  428   76   79  134   73    9 : 3297
   PERCENT    :   1.   1.   3.   6.   6.   8.  10.  10.  16.  16.  13.   2.   2.   4.   2.   0. :      100.
              .....................................................................................................

                    TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =        277(   8.40 %)
```

```
                                     STABILITY WIND ROSE DIAGRAM

                                        C-B SHALE OIL PROJECT
                          LEVEL =  8 FEET   PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - E
                                                                  WIND DIRECTION
                            N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED            2.    2.   4.    4.   5.    4.   4.    5.  10.    4.   8.    3.   3.    5.   3.    2.
  MPH

   GT    24     :                                                                                             :         0.
   18 -  24     :                                                                                             :         0.
   12 -  18     :                                                                                             :         0.
    7 -  12     :   1                                                 2          1                            :     4   1.
    3 -   7     :   2          2     4    9    12   16     8   15     7   28     1    1     2    1             :   108  35.
   LT     3     :   4     6    7    15   13    20   15    14   14    22   42     9    5     3    2     3       :   194  63.
    TOTAL       :   7     6    9    19   22    32   31    22   31    29   71    10    6     5    3     3       :   306
   PERCENT      :  2.    2.   3.    6.   7.   10.  10.    7.  10.    9.  23.    3.   2.    2.   1.    1.       :       100.
                ..........................................................................................................
                        TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =         37(  12.09 %)
```

```
                                  STABILITY WIND ROSE DIAGRAM

                                     C-B SHALE OIL PROJECT
                        LEVEL =  8 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - TOTAL
                                                        WIND DIRECTION
                      N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     10.   8.   7.   5.   5.   5.   9.  13.  20.  17.  15.  13.  10.  10.   9.   9.
    MPH
                                                                                                   :        0.
   GT   24    :
                                                                                                   :     6  0.
 18 -   24    :                                                 6
                                                                                                   :   383  4.
 12 -   18    :                                            8  140  214   20    1
                                                                                                 7 :  1127 13.
  7 -   12    :  13    2    2                        1   69  344  522   84   13   15   34   21
                                                                                                33 :  2563 30.
  3 -    7    :  62   53   78   95  100  172  258  308  308  377  289   89   74  172   95
                                                                                                52 :  4495 52.
  LT     3    : 114  162  228  362  453  453  422  315  340  454  493  156  172  221   98
                                                                                                92 :  8574
  TOTAL       : 189  217  308  457  553  625  681  700 1138 1567  886  259  261  427  214
  PERCENT     :  2.   3.   4.   5.   6.   7.   8.   8.  13.  18.  10.   3.   3.   5.   2.   1. :       100.
                ...........................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -     1012(  11.80 %)


                               PERCENTAGE OF A     STABILITY -  14.60 %
                               PERCENTAGE OF B     STABILITY -   8.11 %
                               PERCENTAGE OF C     STABILITY -  34.85 %
                               PERCENTAGE OF D     STABILITY -  38.45 %
                               PERCENTAGE OF E     STABILITY -   3.57 %
```

```
                                              STABILITY WIND ROSE DIAGRAM

                                                  C-B SHALE OIL PROJECT
                                LEVEL = 30 FEET   PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - A
                                                                    WIND DIRECTION
                              N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED             13.    8.   10.    5.    5.    6.    7.    7.   10.    9.    7.    8.   12.    7.    9.   11.
  MPH


   GT   24    :
                                                                                                                             :        0.
 18  -  24    :
                                                                                                                             :        0.
 12  -  18    :   2
                                                                                             1                               :    3   0.
  7  -  12    :   6     2     1                             1     2     7     5     3     4     2     1     2     6 :   42   6.
  3  -   7    :  31    23    21    17    24    40    27    20    15    22    28    16    13     9     9    19 :  335  45.
  LT     3    :  16    17    28    37    33    62    40    29    15    10    18    16     9    18     8    15 :  372  49.
   TOTAL      :  55    42    54    54    57   102    68    51    39    37    49    36    25    28    19    40 :  752
  PERCENT     :  7.    6.    7.    7.    8.   14.    9.    7.    5.    5.    7.    5.    3.    4.    3.    5. :      100.
             ...........................................................................................................
                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -           33(   4.39 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                   LEVEL = 30 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - B
                                                   WIND DIRECTION
                    N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED    7.   0.   5.   4.   5.   6.   9.   9.  12.  14.  11.   8.  10.   9.   6.   7.
    MPH

   GT   24    :                                                                                 :      0.

   19 -  24   :                                                                                 :      0.

   13 -  18   :                                            1    1                               :    2  1.

    7 -  12   :    2                                  2    1    9   10   10    4    4    4         1 :   47 13.

    3 -   7   :    5    9   12   14   18   20   16   18   21   22   13    8   16    9    5    3 :  209 56.

   LT     3   :    3    3    5   16   12   15   12    8    7    8    7    2    7    6    1    2 :  114 31.

    TOTAL     :   10   12   17   30   30   35   30   27   38   41   30   14   27   19    6    6 :  372

    PERCENT   :   3.   3.   5.   8.   8.   9.   8.   7.  10.  11.   8.   4.   7.   5.   2.   2. :     100.
              ......................................................................................

                    TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        10(   2.69 %)
```

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                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                             LEVEL = 30 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - C
                                                                 WIND DIRECTION
                      N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED     11.    5.    5.    6.    6.    6.   12.   13.   19.   19.   19.   13.   14.    9.   10.   12.
    MPH


    GT   24   :                                                                                                    :        0.

    18 -  24  :                                                   3    11     2                                    :    16  1.

    12 -  18  :                                         1     1    22   102    14     2     2                 1    :   145 12.

     7 -  12  :      3                                  3    19    49    94    42    16    10    12     9     2    :   259 21.

     3 -   7  :     11    15    27    36    50    63    70    38    58    77    31    28    22    34    29     8    :   597 48.

     LT   3   :      4    12    17    22    34    24    23    16    22    11    10     9    12    13     7     2    :   238 19.

     TOTAL    :     18    27    44    58    84    87    97    74   154   295    99    55    46    59    45    13    :  1255

     PERCENT  :     1.    2.    4.    5.    7.    7.    8.    6.   12.   24.    8.    4.    4.    5.    4.    1.    :      100.
              ..............................................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          14(   1.12 %)
```

```
                                      STABILITY WIND ROSE DIAGRAM

                                        C-B SHALE OIL PROJECT
                             LEVEL = 30 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - D
                                                                 WIND DIRECTION
                     N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED    12.    9.    8.    7.    7.    7.    8.   17.   26.   22.   18.   18.   11.   13.   12.    8.
     MPH


   GT    24    :                                                     2                                          :     2  0.

  18 -   24    :                                                    48    46     4     1                        :    99  2.

  12 -   18    :     1                                        35   204   364    36     2           6     2        :   650 16.

   7 -   12    :     6     1     2     3     1     2    12    81   215   295    73    13     9    67    33     6  :   820 20.

   3 -    7    :    21    32    32    82   155   249   279   183   174   283   144    60   100   132    29    85  :  2040 50.

   LT     3    :    11    13    12    22    34    34    35    48    56    59    54    18    30    15     5    47  :   493 12.

   TOTAL       :    39    46    46   107   190   285   326   347   734  1047   311    94   139   220    69   138  :  4104

   PERCENT     :     1.    1.    1.    3.    5.    7.    8.    8.   17.   26.    8.    2.    3.    5.    2.    3. :       100.
                   ..........................................................................................................

                            TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          32(   0.78 %)
```

```
                                       STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                              LEVEL = 30 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - E
                                                                   WIND DIRECTION
                          N    NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL   %
GROUP MAX SPEED          12.    4.    9.    6.    6.    6.    8.   14.   24.   19.   19.    6.    7.   12.   12.    9.
  MPH


     GT   24     :                                                       1                                           :     1  0.

    18. -  24    :                                                       6     2     1                               :     9  1.

    12 -  18     :        1                                        4    33    20     3                 1     1       :    63  6.

     7 -  12     :        2           1                       9   44    35    43     9           2    15     3     3 :   166 15.

     3 -   7     :       21     8     7    27    46   100    90  120    51    97    47    18    34    24     5    37 :   732 66.

     LT    3     :        5     2     2     1     4     6     9   19    15    16    18     4     3     1     0    29 :   134 12.

      TOTAL      :       29    10    10    28    50   106   108  187   141   178    78    22    39    41     9    69 :  1105

     PERCENT     :        3.    1.    1.    3.    5.   10.   10.  17.   13.   16.    7.    2.    4.    4.    1.    6. :     100.
                   ..........................................................................................................

                             TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         14(    1.27 %)
```

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                                   STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                           LEVEL = 30 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - TOTAL
                                                          WIND DIRECTION
                     N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED     15.   9.   10.    7.    7.    7.   12.   17.   26.   22.   19.   18.   14.   13.   12.   12.
     MPH


    GT    24    :                                                      3                                         :    3  0.

  18 -    24    :                                                     57    59     7     1                     :  124  2.

  12 -    18    :    4                                   1    40   260   487    53     4     3     7     3     1 :  863 11.

   7 -    12    :   19     3     4     3     1     2    27   147   316   447   137    37    27    99    47    18 : 1334 18.

   3 -     7    :   89    87    99   176   293   472   452   379   320   501   263   130   185   208    77   152 : 3913 51.

   LT      3    :   39    46    65   100   120   142   122   123   119   108   109    51    63    56    22    96 : 1383 18.

    TOTAL       :  151   136   168   279   414   516   532   689  1075  1602   569   223   278   370   149   267 : 7620

   PERCENT      :   2.    2.    2.    4.    5.    8.    8.    9.   14.   21.    7.    3.    4.    5.    2.    4. :      100.
                ..............................................................................................................

                       TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        103(   1.35 %)


                            PERCENTAGE OF A      STABILITY -   9.87 %
                            PERCENTAGE OF B      STABILITY -   4.88 %
                            PERCENTAGE OF C      STABILITY -  16.47 %
                            PERCENTAGE OF D      STABILITY -  53.86 %
                            PERCENTAGE OF E      STABILITY -  14.50 %
```

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                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                                LEVEL =100 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - A
                                                           WIND DIRECTION
                         N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED        13.   12.    4.    5.    5.    7.    8.    7.   14.   10.    8.    7.   10.    7.   12.   11.
    MPH


    GT    24    :                                                                                                    :        0.

   18 -   24    :                                                                                                    :        0.

   12 -   18    :       1     2                                                                         1            :     4  0.

    7 -   12    :      11     6                       1     5     1     5     6     8     3     1     1     1     2  :    51  6.

    3 -    7    :      30    23    14     8    18    33    47    61    56    29    19    16     9     9     5    21  :   398 44.

    LT     3    :      17    13    25    21    37    54    66    58    55    32    18    13    12    13    11    13  :   461 50.

     TOTAL      :      59    44    42    29    55    68   118   120   115    67    45    32    22    23    18    36  :   914

    PERCENT     :      6.    5.    5.    3.    6.   10.   13.   13.   13.    7.    5.    4.    2.    3.    2.    4.  :      100.
                    .................................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =         65(    7.11 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                               LEVEL =100 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - D
                                                                  WIND DIRECTION
                         N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED         11.    6.    5.    5.    6.    6.    8.   11.   14.   12.   11.   11.   14.   10.    7.    4.
     MPH


    GT    24    :                                                                                                 :        0.

  18 -    24    :                                                                                                 :        0.

  12 -    18    :                                                     2     1                 1                   :      4  1.

   7 -    12    :    2                                   3     6    12     7     6     6     6     1     1        :     50 13.

   3 -     7    :    9     7    10    10    12    15    31    23    30    20    15    12     5    12     3     4  :    218 55.

    LT     3    :    7     4     5    10    10    11    19    14    13     6     5     5     5     6     3     1  :    124 31.

     TOTAL      :   18    11    15    20    22    26    53    43    57    34    26    23    17    19     7     5  :    396

    PERCENT     :   5.    3.    4.    5.    6.    7.   13.   11.   14.    9.    7.    6.    4.    5.    2.    1.  :       100.
                ...................................................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          14(   3.54 %)
```

```
                                    STABILITY WIND ROSE DIAGRAM

                                        C-B SHALE OIL PROJECT
                              LEVEL =100 FEET   PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - C
                                                        WIND DIRECTION
                           N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED           13.   5.   6.   5.    6.   6.   9.   16.  19.  23.  23.  14.  16.  13.  12.   9.
    MPH


    GT    24     :                                                                                       :          0.

  18 -    24     :                                                  1    29    5                         :     35   3.

  12 -    18     :    1                                      2     12    48   21    1    4    2    1      :     92   9.

   7 -    12     :    0                                 7    24    39    62   47   13   19   17    9    2 :    239  23.

   3 -     7     :    8   12   17   27   30   53   54    39    64    51   29   14   24   30   24   13 :    489  48.

   LT      3     :    2   16    8    6   19   15   14    18    14    20    8    7   11    7    7    0 :    172  17.

    TOTAL        :   11   28   25   33   49   68   75    83   130   210  110   35   58   56   41   15 :   1027

   PERCENT       :   1.   3.   2.   3.   5.   7.   7.    8.   13.   20.  11.   3.   6.   5.   4.   1. :         100.
                 ...........................................................................................................

                              TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         14(    1.36 %)
```

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                                        STABILITY WIND ROSE DIAGRAM

                                            C-B SHALE OIL PROJECT
                               LEVEL =100 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - D
                                                                 WIND DIRECTION
                          N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED         14.   11.   10.    7.    9.    9.   10.   19.   32.   25.   25.   22.   15.   15.   14.   13.
    MPH


    GT   24     :                                                        17    10     1                               :   28  1.

  18 -   24     :                                                   5    69   231    34     1                         :  340  9.

  12 -   16     :     4                                            42   175   381    74     7     3     9    18     3 :  716 19.

   7 -   12     :     8     2     2     3     7    23    47   104   138   276   107    22     7    71    64     7 :  888 23.

   3 -    7     :    21    32    23    36    96   206   251   150   153   153    72    61    73   135    78    26 : 1566 41.

    LT    3     :     8     6    11    10    17    28    24    34    32    17    18     5    22    13    11    26 :  282  7.

    TOTAL       :    41    44    35    49   120   257   322   335   584  1068   306    96   105   228   171    62 : 3820

   PERCENT      :    1.    1.    1.    1.    3.    7.    8.    9.   15.   28.    8.    3.    3.    6.    4.    2. :       100.
                ........................................................................................................

                               TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         26(   0.68 %)
```

```
                                         STABILITY WIND ROSE DIAGRAM

                                             C-B SHALE OIL PROJECT
                                LEVEL =100 FEET   PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - C
                                                                   WIND DIRECTION
                       N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED      12.    6.   10.    4.    7.    9.   10.   20.   25.   24.   22.   11.    5.   16.   13.    9.
    MPH


    GT    24    :                                                        1     1                                  :     2  0.

   18 -   24    :                                                  2    28    28     6                            :    64  5.

   12 -   18    :      2                                           9    69    71    13                 1     2      :   167 12.

    7 -   12    :      7           1           1    17    30    71    55    86    33     5          19    17     2 :   344 26.

    3 -    7    :     15    18     8     4    56    82   139    79    49    36    30    29    22    58    19     5 :   649 48.

    LT     3    :      4     3     6     6    20    10    12     8    10     8     4     3     6     4     2    12 :   118  9.

    TOTAL       :     28    21    15    10    77   109   181   169   212   230    86    37    28    82    40    19 :  1344

    PERCENT     :     2.    2.    1.    1.    6.    8.   13.   13.   16.   17.    6.    3.    2.    6.    3.    1. :      100.
                ........................................................................................................

                           TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          19(   1.41 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                               LEVEL =100 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - TOTAL
                                                                   WIND DIRECTION
                       N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED      14.   12.   10.    7.    9.    9.   10.   20.   30.   25.   25.   22.   16.   16.   14.   13.
     MPH


     GT   24    :                                                       18    11     1                               :   30  0.

   18 -   24    :                                                  7    96   288    45     1                         :  439  6.

   12 -   18    :      6     2                                    53   258   501   108     8     8    12    22     3 :  983 13.

    7 -   12    :     28     8     3     3     8    41    92   206   249   437   201    49    33   109    92    13 : 1572 21.

    3 -    7    :     63    92    72    85   212   389   522   352   352   289   165   132   133   244   129    69 : 3320 44.

     LT    3    :     38    44    59    55   105   120   138   132   125    85    56    36    59    47    37    53 : 1189 16.

      TOTAL     :    157   146   134   143   325   550   752   750  1104  1611   576   226   233   412   280   138 : 7533

    PERCENT     :     2.    2.    2.    2.    4.    7.   10.   10.   15.   21.    8.    3.    3.    5.    4.    2. :      100.
                     ...........................................................................................................

                               TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        138(   1.83 %)


                                   PERCENTAGE OF A        STABILITY -  12.13 %
                                   PERCENTAGE OF B        STABILITY -   5.26 %
                                   PERCENTAGE OF C        STABILITY -  13.63 %
                                   PERCENTAGE OF D        STABILITY -  50.71 %
                                   PERCENTAGE OF E        STABILITY -  17.84 %
```

```
                         STABILITY WIND ROSE DIAGRAM

                            C-B SHALE OIL PROJECT
                 LEVEL =200 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - A
                                                 WIND DIRECTION
                    N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL   %
GROUP MAX SPEED   14.    8.   11.    5.    4.    6.    7.    8.   10.   10.   10.    9.    6.   10.   11.   11.
   MPH

   GT   24   :                                                                                                   :        0.

  18 -  24   :                                                                                                   :        0.

  12 -  18   :      3                                                                                            :     3  0.

   7 -  12   :      9     5     1                       1     5     8    10    11     4           2     1     3 :    60  8.

   3 -   7   :     28    16    18    12    12    12    19    49    85    46    19    18    13     7     7    11 :   373 48.

   LT    3   :     12    12    28    16    33    21    41    59    41    24    13     6     8    15     9     9 :   347 44.

    TOTAL    :     52    33    47    28    45    33    61   113   135    80    43    28    21    24    17    23 :   783

  PERCENT    :     7.    4.    6.    4.    6.    4.    8.   14.   17.   10.    5.    4.    3.    3.    2.    3. :      100.
             ..........................................................................................................

                   TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        50(   6.39 %)
```

```
                                     STABILITY WIND ROSE DIAGRAM

                                         C-B SHALE OIL PROJECT
                              LEVEL =230 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - B
                                                                WIND DIRECTION
                        N   NNE   NE   ENE    E   ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED        11.   5.   6.    5.   4.    6.   9.  12.  11.  11.  14.  10.  14.  11.   8.   6.
     MPH

   GT   24     :                                                                                      :        0.
 18 -   24     :                                                                                      :        0.
 12 -   18     :                                              1              1         1              :     3  1.
  7 -   12     :    1                                    1    5   17   22   16    5    2    5    1    :    75 17.
  3 -    7     :   10    6    5   15    4    9   16   25   62   54   16    7    7   11    5    3   :   255 58.
   LT    3     :    4    4    6    5    9    6   12   13   16   10    4    2    1    9    3    1   :   105 24.
    TOTAL      :   15   10   11   20   13   15   29   44   95   86   37   14   11   25    9    4   :   438
   PERCENT     :   3.   2.   3.   5.   3.   3.   7.  10.  22.  20.   8.   3.   3.   6.   2.   1.  :       100.
                   ....................................................................................................

                              TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        17(   3.88 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                              LEVEL =200 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - C
                                                             WIND DIRECTION
                        N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
 GROUP MAX SPEED        6.   6.   8.   5.   7.   7.   7.  17.  20.  23.  22.  25.  14.  11.  10.  12.
     MPH


    GT   24     :                                                         1                          :    1  0.

  18 -   24     :                                              2   17    5    1                      :   25  2.

  12 -   16     :                                         7   11   37   16    2    3               1 :   77  7.

   7 -   12     :               1         1    1    2   22   41   88   49   30   23   22   16    1 :  297 26.

   3 -    7     :  7   11    9   23   18   23   25   53   87  121   37   26   14   24   36    9 :  523 47.

    LT    3     :  2    4   10    9   12   16   24   26   28   21    9    8    8   13    5    6 :  201 18.

     TOTAL      :  9   15   20   32   31   40   51  108  169  284  116   68   48   59   57   17 : 1124

    PERCENT     :  1.   1.   2.   3.   3.   4.   5.  10.  15.  25.  10.   6.   4.   5.   5.   2. :     100.
                ..............................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        14(   1.25 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                              LEVEL =210 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - D
                                                          WIND DIRECTION
                      N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED     15.   12.   10.    7.     7.    9.   10.   22.   31.   29.   27.   15.   16.   17.   16.   15.
    MPH


   GT   24   :                                                    23    56    13                                 :    92  2.

 18 -   24   :                                              6    57   334   104                                 :   501 14.

 12 -   18   :        5     1                                20   111   342   119     9     7    12    28     7 :   661 18.

  7 -   12   :        9     1     3     1     2     9    54    92    96   316   152    39    13    65    83    19 :   954 26.

  3 -    7   :       16    25    22    16    25    88   158   119   100   174    74    49    58   142    90    26 : 1182 32.

   LT    3   :        7    12    15     7     6    27    36    31    36    30    19    12    19    22    20    17 :   316  9.

   TOTAL     :       37    39    40    24    33   124   248   268   423  1252   481   109    97   241   221    69 : 3706

  PERCENT    :        1.    1.    1.    1.    1.    3.    7.    7.   11.   34.   13.    3.    3.    7.    6.    2. :       100.
                   .....................................................................................................

                             TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          45(   1.21 %)
```

```
                                          STABILITY WIND ROSE DIAGRAM

                                             C-B SHALE OIL PROJECT
                                  LEVEL =240 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

 STABILITY CLASS - E
                                                                     WIND DIRECTION
                           N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED          14.    5.   11.   10.    6.   10.   10.   19.   33.   27.   27.    9.   13.   15.   14.    9.
    MPH


    GT   24    :                                                           5    18     3                                :   26  2.

   18 -  24    :                                                     1    39   126    33                                :  199 15.

   12 -  18    :       2                                             2    40   126    47           2     4     7          :  230 18.

    7 -  12    :       6           1     1           9    58    45    24   109    47     5     0    19    30     2 :  356 28.

    3 -   7    :       9     9     9     7    11    25    69    50    41    33    19    11    13    57    23    12 :  398 31.

    LT    3    :       1     2     3     5     7     8    16     9     9     7     4     4     3     4     5     3 :   90  7.

     TOTAL     :      20    11    13    13    18    42   143   107   158   419   153    20    18    84    65    17 : 1301

   PERCENT     :      2.    1.    1.    1.    1.    3.   11.    8.   12.   32.   12.    2.    1.    6.    5.    1. :      100.
                 ..............................................................................................................

                                 TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        20(   1.54 %)
```

```
                                    STABILITY WIND ROSE DIAGRAM

                                       C-B SHALE OIL PROJECT
                            LEVEL =200 FEET  PERIOD( 1/ 1/77 TO  1/31/77)

STABILITY CLASS - TOTAL
                                                         WIND DIRECTION
                       N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED      15.   12.   11.   10.    7.   10.   10.   22.   33.   29.   27.   25.   16.   17.   16.   15.
    MPH


   GT   24    :                                                        28    74    16     1                           :  119  2.

  18 -  24    :                                                  7     98   477   142     1                           :  725 10.

  12 -  18    :   10     1                                      30    162   505   183    11    13    16    35     8 :  974 13.

   7 -  12    :   27     6     5     2     3    19   115   169   186   545   275    83    38   113   131    25 : 1744 24.

   3 -   7    :   70    67    63    73    70   157   287   296   376   428   165   111   105   241   161    61 : 2731 37.

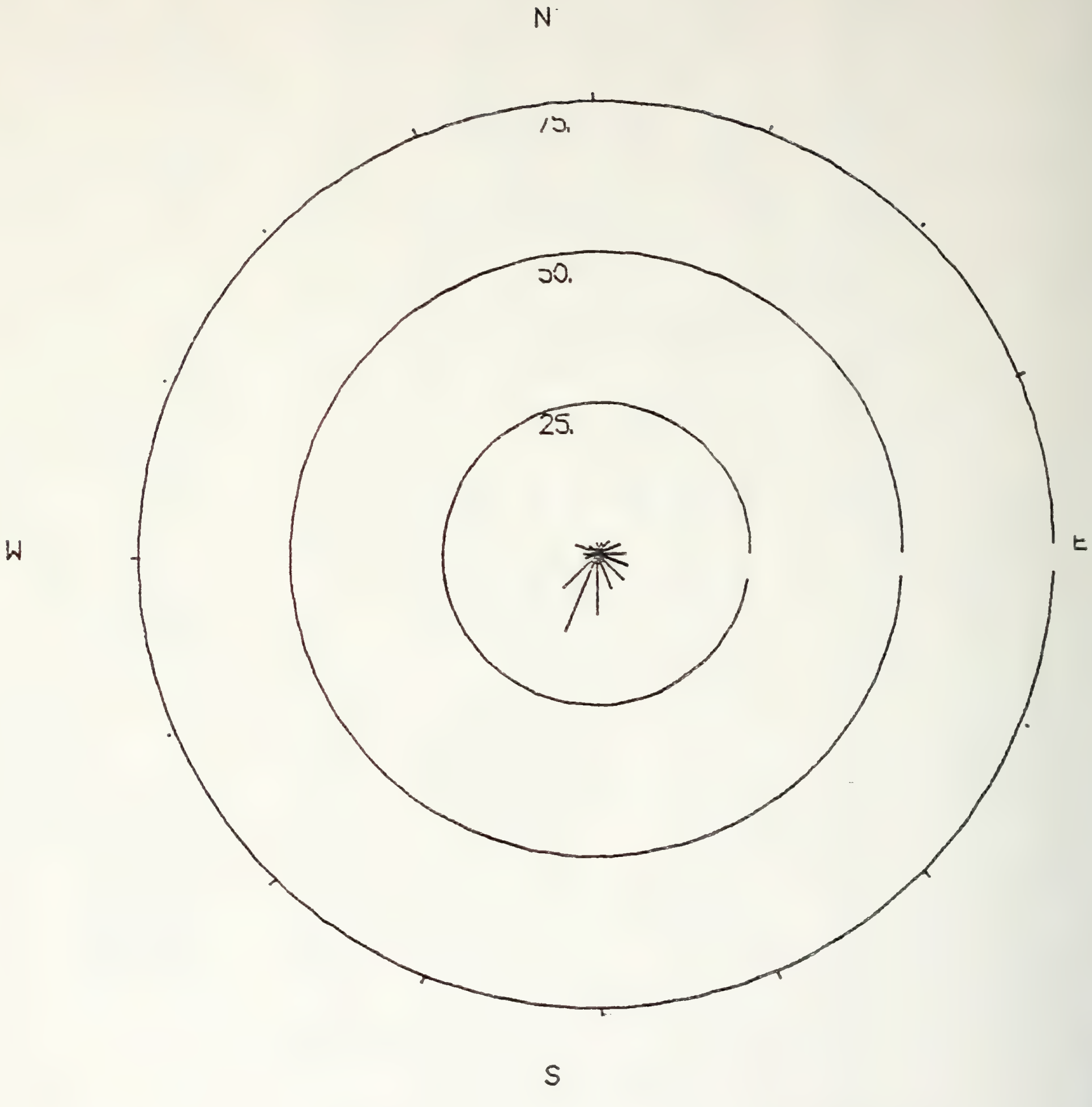
   LT    3    :   27    35    62    45    69    81   131   139   130    96    53    35    41    67    44    37 : 1092 15.

   TOTAL      :  134   109   131   120   142   257   534   641   980  2125   834   242   197   437   371   131 : 7385

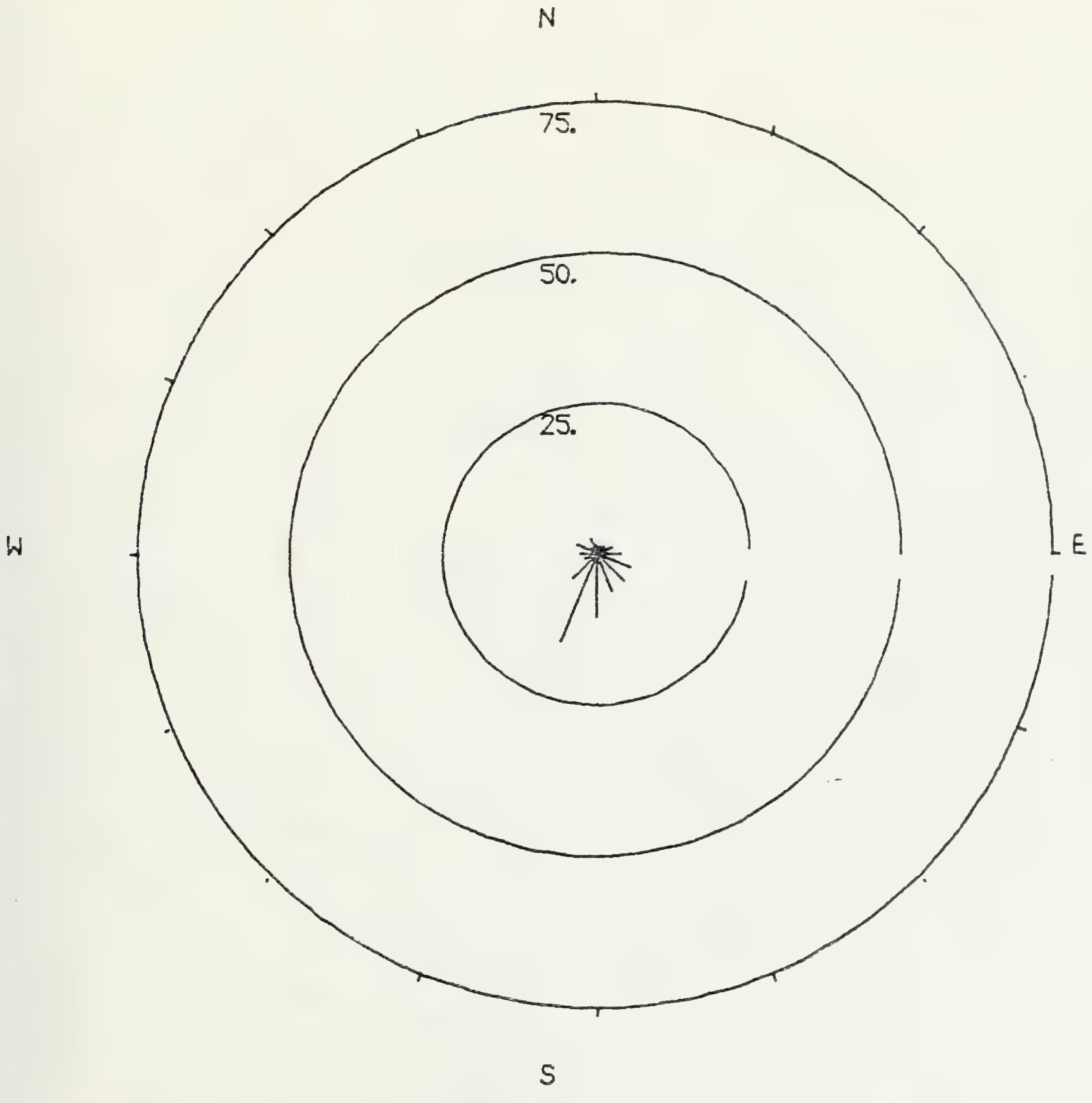
   PERCENT    :   2.    1.    2.    2.    2.    3.    7.    9.   13.   29.   11.    3.    3.    6.    5.    2. :      100.
              ..............................................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        146(    1.98 %)


                              PERCENTAGE OF A      STABILITY -  10.60 %
                              PERCENTAGE OF B      STABILITY -   5.93 %
                              PERCENTAGE OF C      STABILITY -  15.22 %
                              PERCENTAGE OF D      STABILITY -  50.18 %
                              PERCENTAGE OF E      STABILITY -  17.62 %
```

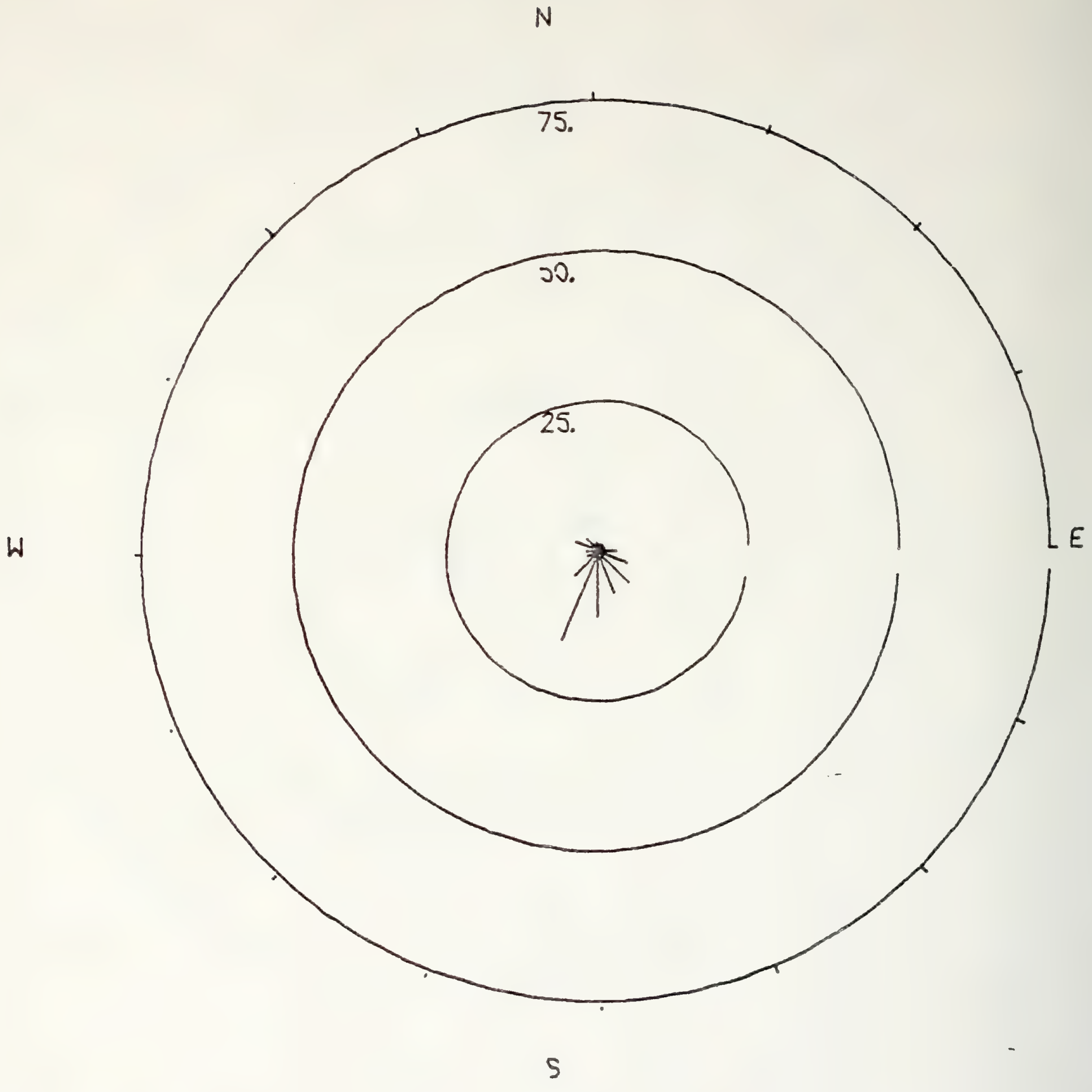


PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 8 FOOT LEVEL

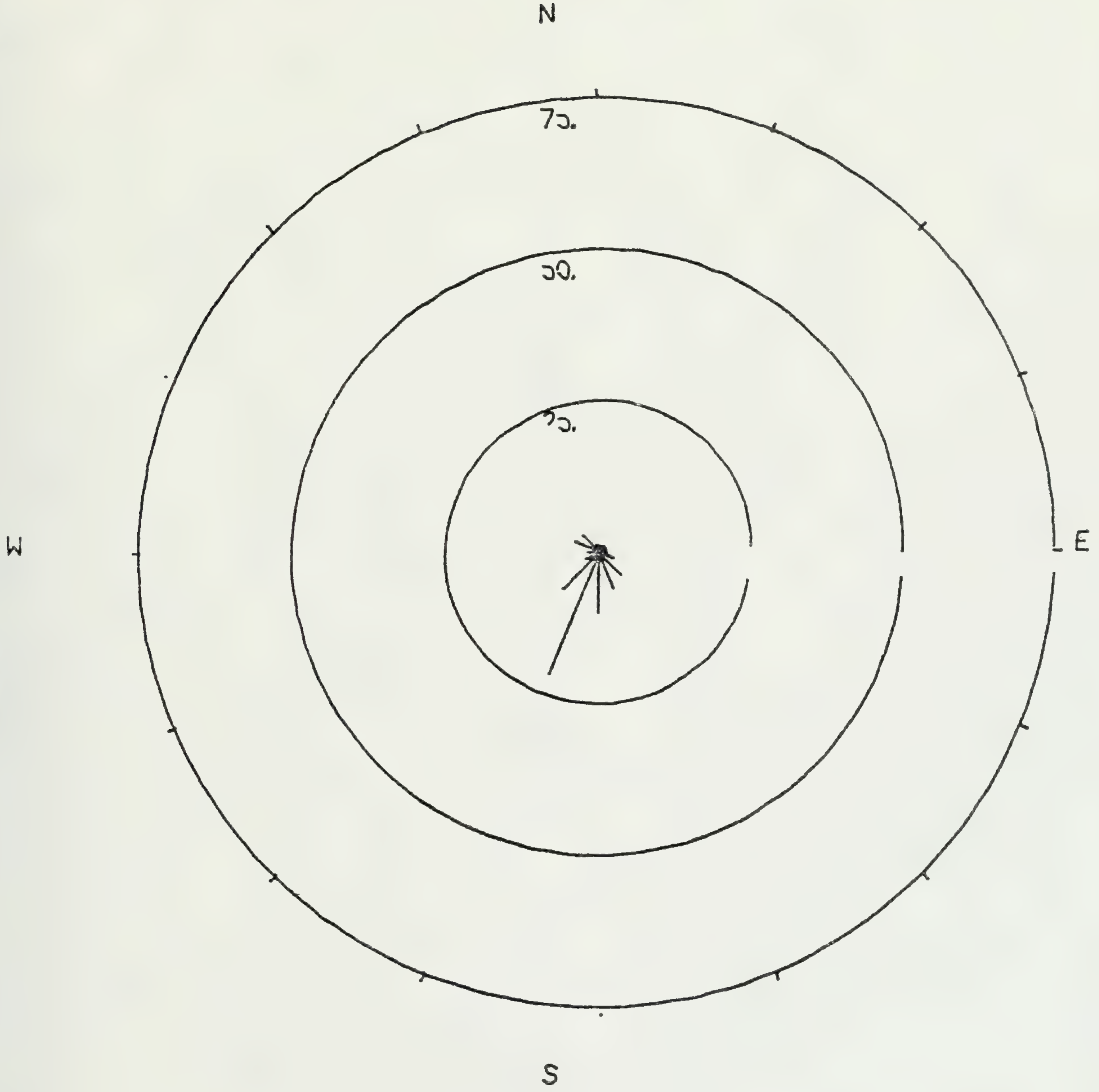


PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 30 FOOT LEVEL

RADIAN
CORPORATION



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 100 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL

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RADIAN REPORT -

CORPORATION
DCN 77-100-152-01

AIR MONITORING REPORT
FOR
C-b SHALE OIL PROJECT
FEBRUARY 1977
REPORT NO. 30

26 May 1977

Presented to:
C-b Shale Oil Project
United Bank Tower
Denver, Colorado 80202

Prepared by:
Radian Staff

TABLE OF CONTENTS

Page

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM-------- II B-872

II. DESCRIPTION OF INSTRUMENT SYSTEMS-------------------- -874
A. Air Quality Instrumentation---------------------- -874
B. Calibration Procedures--------------------------- -875
C. Data Acquisition System-------------------------- -876
D. Meteorological Instrumentation------------------- -877

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES------------ -883

IV. OPERATING TIME ANALYSIS FOR EACH SITE--------------- -885

V. MONTHLY METEOROLOGICAL SUMMARY---------------------- -889
A. Summary of the Meteorological Conditions over North America during February 1977-------------- -889
B. Summary of the Meteorological Conditions in Northwestern and West Central Colorado during February 1977------------------------------------ -891
C. Summary of the Meteorological Conditions in the Oil Shale Tract C-b Region during February 1977-- -892

VI. DATA PRESENTATION AND SUMMARY----------------------- -898

LIST OF TABLES

Page

TABLE I DOWNTIME HOURS FOR C-b SHALE OIL PROJECT
Site 023 ---------- II B-886
Site 023 ---------- -887
Site 023 ---------- -888

TABLE II FEDERAL AND COLORADO STANDARDS ---------- -904

TABLE III AVERAGES FOR FEBRUARY 1 THRU 28
Nitrogen Oxides (NO_x) ---------- -905
Nitric Oxide (NO) ---------- -905
Nitrogen Dioxide (NO_2) ---------- -905
Sulfur Dioxide (SO_2) ---------- -905
Pyranometer ---------- -905
Hydrogen Sulfide ---------- -905
Total Hydrocarbons ---------- -905
Methane ---------- -905
Non-Methane ---------- -905
Carbon Monoxide ---------- -905
Ozone ---------- -905
Barometric Pressure ---------- -905
Total Precipitation ---------- -905
Particulate ---------- -905
Wind Speed ---------- -907
Wind Direction ---------- -907
Relative Humidity ---------- -907
Temperature ---------- -907

LIST OF TABLES (contd) Page

TABLE IV DAILY AVERAGES FOR FEBRUARY 1 THRU 28
Nitrogen Oxides (NO_x) II B-909
Nitric Oxide (NO) -909
Nitrogen Dioxide (NO_2) -909
Sulfur Dioxide (SO_2) -910
Pyranometer -910
Hydrogen Sulfide -910
Total Hydrocarbons -911
Methane -911
Non-Methane Hydrocarbons -911
Carbon Monoxide -912
Ozone -912
Barometric Pressure -913
Total Precipitation -913
Particulate -913
Wind Speed -914
Wind Direction -915
Relative Humidity -916
Temperature -917

TABLE V MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEBRUARY 1 THRU 28
Nitrogen Oxides (NO_x) -919
Nitric Oxide (NO) -920
Nitrogen Dioxide (NO_2) -921
Sulfur Dioxide (SO_2) -922
Pyranometer -923
Hydrogen Sulfide -924
Total Hydrocarbons -925
Methane -926
Non-Methane Hydrocarbons -927
Carbon Monoxide -928
Ozone -929

LIST OF TABLES (contd) Page

TABLE V MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEBRUARY 1 THRU 28
Barometric Pressure------------------------------ II B-930
Total Precipitation------------------------------ -931
Wind Speed-Wind Direction------------------------ -932
Relative Humidity-------------------------------- -933
Temperature-------------------------------------- -934

TABLE VI THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEBRUARY 1 THRU 28
Nitrogen Oxides---------------------------------- -936
Nitric Oxide------------------------------------- -936
Nitrogen Dioxide--------------------------------- -936
Sulfur Dioxide----------------------------------- -937
Sulfur Dioxide - 24-hour------------------------- -937
Hydrogen Sulfide--------------------------------- -938
Total Hydrocarbons------------------------------- -938
Methane-- -939
Non-Methane Hydrocarbons------------------------- -940
Carbon Monoxide - 1-hour------------------------- -941
Carbon Monoxide - 8-hour------------------------- -942
Ozone-- -943
Particulate-------------------------------------- -944

TABLE VII FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION
Nitrogen Oxides (NO_x)------------------------- -946
Nitric Oxide (NO)-------------------------------- -947
Nitrogen Dioxide (NO_2)------------------------ -948
Sulfur Dioxide (SO_2)-------------------------- -949
Hydrogen Sulfide (H_2S)------------------------ -950
Total Hydrocarbons------------------------------- -951

LIST OF TABLES (contd) Page

TABLE VII FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION

Methane-- II B-952
Non-Methane Hydrocarbons---------------------- -953
Carbon Monoxide------------------------------- -954
Ozone--- -955

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Nitrogen Oxides------------------------------- -957
Nitric Oxide---------------------------------- -958
Nitrogen Dioxide------------------------------ -959
Sulfur Dioxide-------------------------------- -960
Hydrogen Sulfide------------------------------ -961
Total Hydrocarbons---------------------------- -962
Methane--------------------------------------- -963
Non-Methane Hydrocarbons---------------------- -964
Carbon Monoxide------------------------------- -965
Ozone--- -966
Hourly Total Precipitation-------------------- -967

Wind Speed

8 feet-- -968
30 feet--------------------------------------- -969
100 feet-------------------------------------- -970
200 feet-------------------------------------- -971

Wind Direction

8 feet-- -972
30 feet--------------------------------------- -973
100 feet-------------------------------------- -974
200 feet-------------------------------------- -975

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Wind Direction Standard Deviation
8 feet-- II B-976
30 feet-- -977
100 feet-- -978
200 feet-- -979

Horizontal Wind Direction Standard Deviation
30 feet-- -980
100 feet-- -981
200 feet-- -982

Relative Humidity
8 feet-- -983
30 feet-- -984
100 feet-- -985
200 feet-- -986

Temperature
8 feet-- -987
30 feet-- -988
100 feet-- -989
200 feet-- -990

Hourly Total Solar Radiation------------------ -991
Temperature Change from 30' to 100'----------- -992
Temperature Change from 30' to 200'----------- -993
Barometric Pressure--------------------------- -994

Bi-Vane Wind Speed
30 feet-- -995
100 feet-- -996
200 feet-- -997

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

Horizontal Bi-Vane Wind Direction

30 feet---------------------------------- II B-998
100 feet---------------------------------- -999
200 feet---------------------------------- -1000

Vertical Bi-Vane Wind Direction

30 feet---------------------------------- -1001
100 feet---------------------------------- -1002
200 feet---------------------------------- -1003
Nitrogen Oxides---------------------------------- -1004
Nitric Oxide---------------------------------- -1005
Nitrogen Dioxide---------------------------------- -1006
Sulfur Dioxide---------------------------------- -1007
Hydrogen Sulfide---------------------------------- -1008
Total Hydrocarbons---------------------------------- -1009
Methane---------------------------------- -1010
Non-Methane Hydrocarbons---------------------------------- -1011
Carbon Monoxide---------------------------------- -1012
Ozone---------------------------------- -1013
Hourly Total Precipitation---------------------------------- -1014

Wind Speed

8 feet---------------------------------- -1015
30 feet---------------------------------- -1016
100 feet---------------------------------- -1017
200 feet---------------------------------- -1018

Wind Direction

8 feet---------------------------------- -1019
30 feet---------------------------------- -1020
100 feet---------------------------------- -1021
200 feet---------------------------------- -1022

LIST OF TABLES (contd) Page

TABLE VIII DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS
Relative Humidity
8 feet-- II B-1023
30 feet-- -1024
100 feet-- -1025
200 feet-- -1026
Temperature
8 feet-- -1027
30 feet-- -1028
100 feet-- -1029
200 feet-- -1030
Barometric Pressure------------------------------ -1032
Solar Radiation---------------------------------- -1031
Bi-Vane Wind Speed
30 feet-- -1033
100 feet-- -1034
200 feet-- -1035
Horizontal Bi-Vane Wind Direction
30 feet-- -1036
100 feet-- -1037
200 feet-- -1038
Stability Class Determination Using Pyranometer Recording------------------------- -1039
Stability Class Determination Using DT/DZ (Level 1)------------------------------- -1040
Stability Class Determination Using DT/DZ (Level 2)------------------------------- -1053

LIST OF TABLES (contd) Page

APPENDIX A - STABILITY WIND ROSE DIAGRAMS------------------ II B-1067
8-foot level - Stability Class A-------------- -1070
Class B-------------- -1071
Class C-------------- -1072
Class D-------------- -1073
Class E-------------- -1074
Class Total---------- -1075
30-foot level - Stability Class A-------------- -1076
Class B-------------- -1077
Class C-------------- -1078
Class D-------------- -1079
Class E-------------- -1080
Class Total---------- -1081
100-foot level - Stability Class A-------------- -1082
Class B-------------- -1083
Class C-------------- -1084
Class D-------------- -1085
Class E-------------- -1086
Class Total---------- -1087
200-foot level - Stability Class A-------------- -1088
Class B-------------- -1089
Class C-------------- -1090
Class D-------------- -1091
Class E-------------- -1092
Class Total---------- -1093

Percentage of Occurrence of Wind Direction

8-foot level-------------------------------- -1094
30-foot level-------------------------------- -1095
100-foot level-------------------------------- -1096
200-foot level-------------------------------- -1097

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM

Radian Corporation, under contract to the C-b Oil Shale Project, is performing the data compilation and reporting of air quality and meteorological data at one monitoring site in Northwest Colorado. The site measures and records concentrations of particulates, sulfur dioxide, oxides of nitrogen, hydrogen sulfide, total hydrocarbons, methane, and carbon monoxide. A 200-foot meteorological tower provides wind direction, wind speed, temperature, and relative humidity data at four levels (8, 30, 100, and 200 feet). Other meteorological variables measured at the tower site are insolation, barometric pressure, and precipitation.

Figure I shows the configuration of the monitoring station. The station provides a sturdy and protective covering for the monitoring equipment.

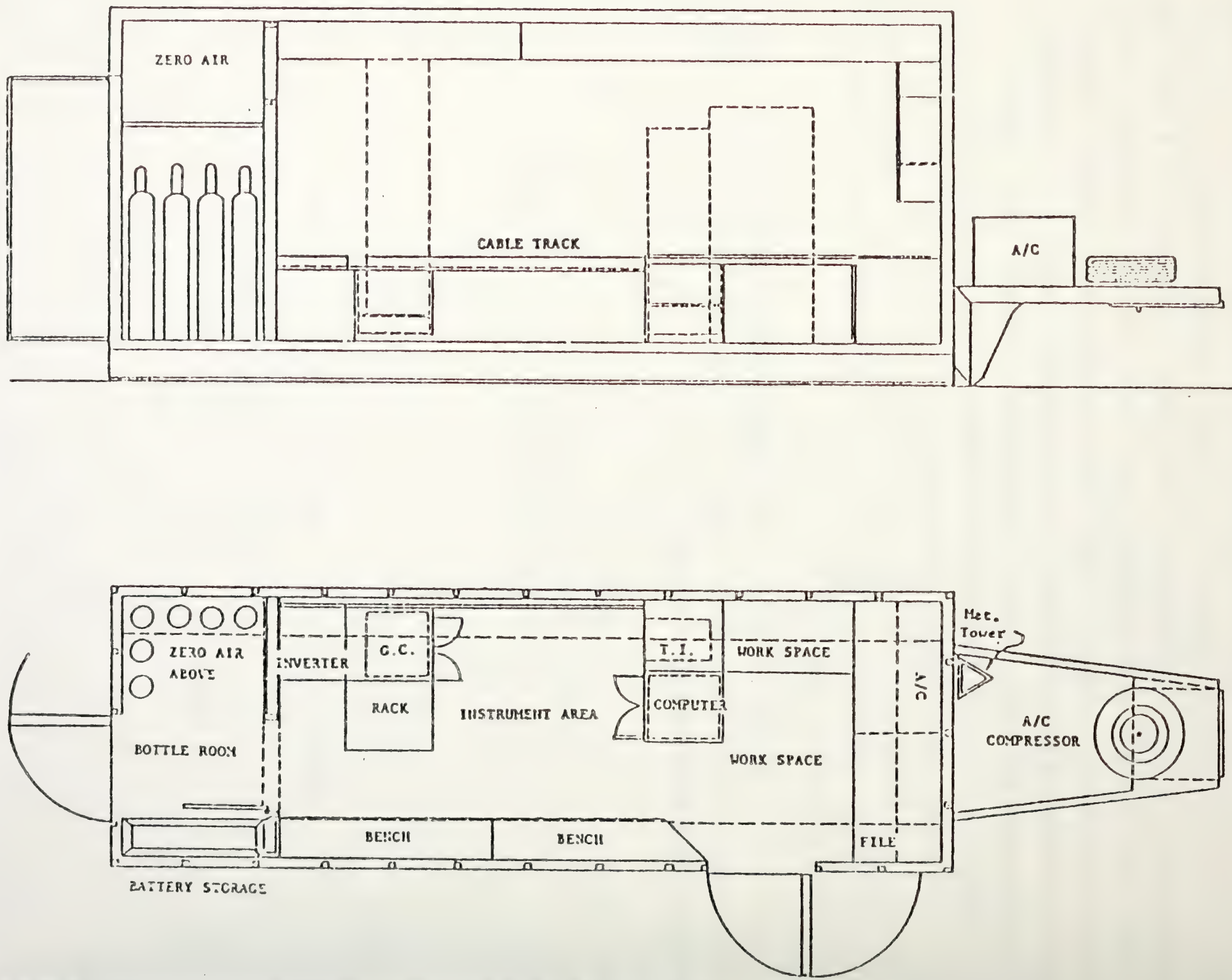

FIGURE I. CONFIGURATION OF MONITORING STATION

II. DESCRIPTION OF INSTRUMENT SYSTEMS

A. Air Quality Instrumentation

Nitrogen oxides are measured with a Meloy Model NA520 analyzer. This dual-channel analyzer is based on the chemiluminescent principle and continuously monitors both NO_x and NO. A subtraction circuit in the instrument provides a continuous NO_2 output, but is not used in Radian's system. NO_2 is calculated once a second by the computer by subtracting the NO value from the NO_x value, thus avoiding any drift which might occur in the NO_2 output of the instrument. This instrument has a minimum detectable sensitivity of 5 ppb (parts per billion) and a linearity of ±1%.

Both sulfur dioxide and hydrogen sulfide are measured with Meloy Model SA185 sulfur analyzers. The hydrogen sulfide analyzer uses a Meloy Model NO_x-1 sulfur dioxide scrubber and the sulfur dioxide analyzer uses a Meloy Model H_2S-1 hydrogen sulfide scrubber. The Model SA185 is a continuous analyzer and utilizes the flame photometric principle of operation. The minimum detectable sensitivity is 5 ppb and the linearity is ±1%.

Ozone is measured with a Meloy Model OA350 analyzer. This instrument, based on the chemiluminescent principle, provides continuous measurement of ozone. The minimum detectable sensitivity is 0.5 ppb and the linearity is ±1%.

Total hydrocarbons, methane, and carbon monoxide are monitored with a Bendix Model 8200 gas chromatograph analyzer. This instrument, which uses a plume ionization detector, has a minimum detectable sensitivity of 5 ppb for all three components. The Model 8200 works on a five-minute cycle, i.e., one air sample is analyzed every five minutes, and the results are displayed for five minutes via a sample and hold circuit.

The air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25mm diameter, through which a constant air flow is provided by an air pump rated at 60 cfm at 0" head pressure. The manifold has sampling ports to which 1/4" teflon lines to the instrument are connected. All joints in the sampling system are secured by 0-ring compression fittings. The manifold is contained in a heated (100°F) chamber to prevent condensation of moisture. The teflon lines from the manifold to the instruments are insulated with 1/8" wall thickness rubber tubing.

The trailer has four heavy duty high volume particulate samplers (Hi-Vols). Fiberglass filter paper is used for the collection of particulate samples, after which each filter is brought to a controlled humidity before weighing. Each Hi-Vol has a flow recorded to permit correction for changes in air flow as the filter becomes loaded with particulates. Each Hi-Vol runs for a 24-hour period (midnight to midnight) and is turned on and off by the computer. The Hi-Vols, which were manufactured by Radian, were designed following guidelines recommended by the Environmental Protection Agency.

In addition to the normal Hi-Vol particulate samples, a duplicate Hi-Vol sample is collected every sixth day on special filter paper for trace element analysis. Once each quarter these samples are composited and analyzed for gross radioactivity and trace element content.

B. Calibration Procedures

The trailer contains a Meloy Model RAD-1 calibration unit. This instrument provides a zero air supply, SO_2 span gas from an SO_2 permeation tube, and NO span gas obtained by precisely

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air, the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroes with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

The Hi-Vol particulate samplers were calibrated using a Calibration Kit from General Metal Works.

C. Data Acquisition System

The basis of the data acquisition system is a Data General NOVA 1200 minicomputer. The NOVA, which has a basic cycle time of 1.2 μsec, is equipped with automatic program load and power fail/automatic restart features. The computer utilizes 16K 16-bit words of core memory. Analog-to-digital conversion is accomplished via an ADC built by Radian Corporation. The input/output unit for the system is Texas Instrument's KSR 733 keyboard/printer. This model teletype provides keyboard entry and hardcopy printed output. The data are also recorded on a cassette magnetic tape unit with three drives. The cassette unit is utilized for program storage and loading as well as for recording. To reduce wear on mechanical parts, the power to the teletype and cassette units is turned on only when the unit(s) is (are) to be used. Several important functions in the instruments as well as in the computer and the trailer are monitored by means of lights on a System Status Panel. These data lights are written onto cassette tape to monitor the complete status of the system every five minutes. The Data Acquisition System also monitors the presence of 100V power from the power lines. In its absence, the computer, which is powered by batteries, switches all trailer

systems to battery-provided power. If the line voltage is restored before the batteries are discharged to a specified level, the trailer system is switched back to line power.

D. Meteorological Instrumentation

200-Foot Meteorological Tower

The tower has instrumentation at four levels: 8 feet, 30 feet, 100 feet, and 200 feet. At all four levels, there are: wind speed, wind direction, and temperature and relative humidity sensors in a power-aspirated radiation shield. Temperature difference thermistors (also in power-aspirated radiation shields) and their associated circuitry take lapse rate measurements for the 30-foot to 100-foot layer and the 30-foot to 200-foot layer. In addition, this site has a Precision Spectral Pyranometer, a barometer, and a tipping bucket rain/snow gage.

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather coaxial cup and damped vane assembly. The prototype model has been in operation for years under the most demanding weather conditions, performing continuously with the utmost reliability. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- Starting Threshold: 0.75 mph.
- Response Distance: 18 feet (63% recovery).
- Flow Coefficient: 7.9 feet/Revolution.
- Accuracy: ±0.4 mph or 1% (whichever is greatest)

Wind Direction

- Starting Threshold: 0.75 mph.
- Delay Distance: 4 feet (50% recovery).
- Damping Ratio: 0.5 to 0.6.
- Accuracy (540° system): ±1%.
- Range: 0° to 540°.

The relative humidity and temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model 840 Series by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. Ambient air is drawn into the shield and across the sensors at approximately 15 feet per second. This intake air is essentially sampled from a hemispherical space which is approximately 3-inch radius from the tube opening. Speed of the incoming air at the perhiphery of this hemisphere is approximately 1 mph.

The temperature sensor is comprised of a dual thermistor and resistor network. This circuit provides a linear resistance change with an air temperature change. The relative humidity sensor is placed alongside the temperature elements inside the shield where it is exposed to a constant flow of air. Circulation to both sides of the sensing element produces accurate monitoring with a good response time. The specifications on the sensing elements are as follows:

Temperature

- Accuracy: ±0.25° C.
- Range: -50°C to +50° C.

Humidity

- Accuracy: ±3.0% RH.
- Range: 0% to 100% Relative Humidity.

Measurements of temperature difference are taken for two layers, the 30-foot to 100-foot and the 30-foot to 200-foot layer. The thermistors and circuitry used for these measurements are separate from the thermistors measuring air temperature. The use of separate thermistors and circuitry to measure ΔT allows for much greater accuracy and resolution in the measurements, which is necessary for stability assessments. Two ΔT thermistors are at the 30-foot level, one is at the 100-foot level, and one is at the 200-foot level. All of these ΔT thermistors are mounted within power-aspirated radiation shields. The specifications on the ΔT instrumentation are as follows:

- Accuracy: ±0.1°C.
- Range of ΔT Circuit (Lower Level-Upper Level): +9F° to -9F°.

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The meteorological tower itself is a 200-foot Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with ½" of radial ice per EIA Standard RS-222-B, to

support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12-feet long, three outside work platforms, an inside ladder for climbing, two base ground kits and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specifications.

The signals from the tower instrumentation are fed from multiple signal cables into transmitters mounted at the base of the tower. After signals have been converted to analog signals, they are fed into a junction box, also at the tower base, where they are assimilated into one coaxial cable. The signals are then run underground within 3" PVC conduit to the A-to-D assembly, where they are processed. The transmitters are shielded and insulated from the elements. The signal cable is run underground in PVC conduit in order to minimize damage from the weather or from various rodents in the region.

The auxiliary equipment at the tower site consists of a heated tipping bucket rain/snow gage, an analog barometer, and a Precision Spectral Pyranometer. The rain/snow gage is the Model P511-E unit by Weather Measure. In the case of this gage, the durability and reliability of a tipping bucket gage are combined with heavy-duty electric heaters to make this an all-purpose precipitation sensor. This gage may be used to measure both snowfall and rainfall. An insulating cover of poly-vinyl chloride and a thermostatic control insure the proper gage temperature. The thermostatic control is adjustable from 0 to 35°C. Snow falling into the inlet funnel is melted. The resulting water (from rain or snow) drains into a precision tipping bucket mechanism which activates a mercury switch each time the bucket fills and tips. The gage is constructed of durable corrosion-resistant materials to provide many years of service. The

specifications for this gage are as follows:

- Orifice: 8 inches.
- Calibration: 0.01 inch.
- Accuracy: 0.5% (Calibrated at 0.5 in/hr).
- Sensor: Chrome-plated tipping buckets.
- Switch: Mercury, 0.1-second closure.
- Heat Control: Thermostat adjustment, 0 to 35°C.

The barometer is the B242 Analog Output Barometer by Weather Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on this instrument, which is mounted inside the monitoring trailer at the site, are as follows:

- Range: Specially designed for the 100 millibar interval from 725 millibars to 825 millibars.
- Resolution: Infinite.
- Linearity: ±0.5 millibar, over the 100 millibar interval.

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand 4½ feet from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- Sensitivity: 5 mv. per cal/cm°/min.
- Independence: 300 ohms.
- Temperature dependence: Sensitivity constant to within ±1 percent over the ambient temperature range from -20 to +40°C.

- Linearity: Response linear up to intensities of 4 cal/cm^2/min.
- Response time: 1 second (i/e signal).

All instrumentation is factory-calibrated and is field-calibrated at various intervals. Sling psychrometers are used to calibrate the humidity sensors; known temperatures and/or resistances are used to calibrate the thermistors; and an rpm calibrating unit is used to calibrate the anemometers. The wind direction instrumentation is aligned to true north (reference direction) by means of a surveyor's transit.

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES

The Piceance Creek Valley and C-b Shale Oil Tract are situated such that many microscale meteorological phenomena affect the region where the ambient air monitoring unit is located. Trailer 023 and its associated 200-foot meteorological tower are located atop a plateau to the south of the valley, high enough to be affected mostly by gradient flow conditions.

The elevation at the meteorological tower site (Trailer 023) is 6940 feet above sea level. The largest gradients in elevation in this area, of course, occur at the Piceance Creek Valley walls. However, the northern valley walls are slightly steeper than those at the southern boundary of the valley, which then slopes upward gradually toward the C-b Tract. The Piceance Creek Valley decreases in elevation from east to west in this area, so that nighttime katabatic cold-air drainage flows advect from east to west.

Site 023 is approximately 2.5 miles south of the Piceance Creek Valley. This location is relatively high compared to its surroundings, with the nearest point having an elevation greater than 7000 feet being .5 miles to the south of the tower. The tower itself is on the top of a small knoll located between Scandard and Sorghum Gulches. Because of its location and the irregularities of the surrounding terrain, meteorological patterns are varied here.

Wind instrumentation is mounted at four levels of the meteorological tower: 8 feet, 30 feet, 100 feet, and 200 feet. The top level of the tower generally remains in gradient wind flow. That is, the winds at that level are normally generated

by synoptic-scale features and are usually separated from terrain features and micrometeorological circulations. Occasionally, a weak anabatic flow influence is experienced. However, such is not the case with the three lowest measurement levels. To varying degrees, these levels are influenced by both the katabatic and anabatic circulation cells. However, when strong pressure gradient forces exist in the region and the synoptic-scale wind flow is strong, all four tower levels will reflect a gradient wind flow as the winds increase in strength and height.

The terrain atop the plateau is generally barren and fairly rugged, with a few scattered small trees. The topsoil dries rapidly and is very fine, resulting in blowing dust when dry, windy conditions exist. In the Piceance Creek Valley, the terrain is fairly grassy and flat, with steep valley walls on either side. Surface winds are normally rather light in this valley unless channeling effects occur.

During clear nights with rather light pressure gradient-induced winds, rapid radiational cooling will occur in the region because of the barren nature of the terrain and the generally dry character of the air in this portion of the country. As a result, the diurnal range of temperatures will be extremely large. Because of the katabatic flow in the valley, nighttime temperatures will generally be lower in the valley than on the plateau. During the winter, especially, temperatures in the valley may be 20F° lower than they are on the plateau during the early morning hours.

IV. OPERATING TIME ANALYSIS FOR EACH SITE

This section presents the operating statistics for each of the major subsystems contained in the monitoring station. Table I shows the specific number of hours that each of these subsystems were inoperative for the month. The column labeled "DIGITIZING SYSTEM" indicates the entire data acquisition system; therefore, downtime hours appearing in this column means total loss of data. These instances include, in addition to computer downtime, power failures, no power available, and self-automated shutdown periods such as during air conditioner malfunctions.

Calibration time is not considered to be downtime and is, therefore, not included in the downtime figures. The amount of time used in calibrating the instruments is given at the bottom of the downtime analysis table and is reported as total calibration hours for each channel for the entire month. As is evident in the calibration figures, channels can be calibrated independently of one another. No calibration time is given for particulate monitoring since Hi-Vol calibration occurs infrequently and only during the off-duty cycle for each Hi-Vol while another Hi-Vol is taking data.

TABLE 1.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	DIGITIZING SYSTEM	NOX	NO	SO2	WS	WD	RH	TOUT	PYR	H2S	VOLT	THC	CH4	CO	O3	PRES	RAIN	PART
2/ 1	0.	10.	10.	0.	0.	0.	24.	0.	0.	0.	21.	0.	24.	0.	0.	0.	0.	0.
2/ 2	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	20.	6.	6.	0.	0.	0.	0.	0.
2/ 3	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	14.	9.	12.	0.	0.	0.	0.	0.
2/ 4	0.	0.	0.	12.	0.	0.	24.	0.	0.	0.	0.	2.	2.	0.	0.	0.	0.	24.
2/ 5	0.	0.	0.	13.	0.	0.	24.	0.	0.	0.	0.	9.	9.	0.	0.	0.	0.	0.
2/ 6	0.	0.	0.	12.	0.	0.	24.	0.	0.	0.	0.	13.	24.	0.	0.	0.	0.	0.
2/ 7	0.	0.	0.	2.	0.	0.	24.	0.	0.	0.	0.	15.	15.	2.	0.	0.	0.	0.
2/ 8	0.	0.	0.	2.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 9	1.	0.	0.	0.	0.	0.	23.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/10	1.	0.	0.	0.	0.	0.	23.	0.	0.	0.	0.	8.	9.	8.	0.	0.	0.	0.
2/11	0.	0.	0.	1.	0.	0.	24.	0.	0.	0.	0.	11.	11.	11.	0.	0.	0.	0.
2/12	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/13	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/14	0.	5.	5.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/15	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/16	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/17	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/18	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/19	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	8.	7.	0.	0.	0.	0.
2/20	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	24.	5.	0.	0.	0.	0.
2/21	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	12.	23.	23.	0.	0.	0.	0.
2/22	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	23.	23.	23.	0.	0.	0.	0.
2/23	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	15.	15.	22.	0.	0.	0.	0.
2/24	0.	0.	0.	0.	0.	0.	24.	0.	0.	10.	0.	0.	0.	24.	0.	0.	0.	0.
2/25	0.	0.	0.	0.	0.	0.	24.	0.	0.	9.	0.	2.	2.	24.	0.	0.	0.	0.
2/26	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	2.	2.	24.	0.	0.	0.	0.
2/27	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	1.	1.	24.	0.	0.	0.	0.
2/28	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	1.	1.	24.	0.	0.	0.	0.
CAL TIME		14.	14.	12.	0.	0.	0.	0.	0.	11.	0.	11.	11.	10.	10.	0.	0.	

TABLE 1.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	DIGITIZING SYSTEM	WS1	WD1	RH1	TMP1	WS2	WD2	RH2	TMP2	WS3	WD3	RH3	TMP3	WS4	WD4	RH4	TMP4	DT1	DT2
2/ 1	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 2	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 3	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 4	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 5	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 6	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 7	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 8	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/ 9	1.	0.	0.	0.	0.	0.	0.	25.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/10	1.	0.	0.	0.	0.	0.	0.	25.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/11	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/12	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/13	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/14	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/15	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/16	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/17	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/18	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/19	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/20	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/21	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/22	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/23	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/24	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/25	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/26	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/27	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2/28	0.	0.	0.	0.	0.	0.	0.	24.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CAL TIME		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE I.
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DATE	BWS1	HWD1	VWD1	BWS2	HWD2	VWD2	BWS3	HWD3	VWD3	WSD1	WSD2	WSD3	WSD4	HSD1	VSD1	HSD2	VSD2	HSD3	VSD3
2/ 1	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	0.	1.	0.	1.	0.
2/ 2	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.	2.	2.	2.	0.	0.	0.	1.	0.
2/ 3	0.	0.	0.	0.	0.	0.	0.	0.	1.	10.	10.	10.	10.	10.	0.	11.	0.	11.	0.
2/ 4	0.	0.	0.	0.	0.	0.	0.	0.	1.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/ 5	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/ 6	0.	0.	0.	0.	0.	0.	0.	0.	1.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/ 7	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/ 8	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/ 9	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	23.	23.	23.	23.	0.	23.	0.	23.	0.
2/10	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	23.	23.	23.	23.	0.	23.	0.	23.	0.
2/11	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/12	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/13	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/14	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/15	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/16	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/17	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/18	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/19	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/20	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/21	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/22	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/23	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/24	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/25	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/26	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/27	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
2/28	0.	0.	0.	0.	0.	0.	0.	0.	0.	24.	24.	24.	24.	24.	0.	24.	0.	24.	0.
CAL TIME	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

V. MONTHLY METEOROLOGICAL SUMMARY

A. Summary of the Meteorological Conditions over North America during February 1977

February 1977 brought above normal temperatures to the western and Rocky Mountain sections of the United States. In addition, the northern and central Plains regions experienced above normal and slightly above normal temperatures, respectively. All other sections of the country experienced normal or below normal monthly average temperatures. Monthly precipitation totals were, at best, slightly below normal in all sections of the country. The long wave circulatory pattern for February featured a mean ridge in the western United States and a long wave trough in the eastern United States. This pattern accounted for the above normal temperatures in the western sections of the country and below normal temperatures in eastern sections of the country. The northern location of the storm tracks and polar front jet stream accounted for the below normal precipitation over most sections of the United States.

The long wave circulation was meridional (north-south) from the 6th through the 8th, from the 12th through the 21st, and on the 27th and 28th. Split flow occurred from the 1st through the 5th, from the 9th through the 11th, and from the 22nd through the 26th.

Extratropical low pressure systems were frequent in the United States during February because of the strength of the polar front jet stream. (The polar front jet stream is normally well developed during February.) Numerous low pressure systems developed during the month, affecting primarily the Great Lakes area. The dates and locations of these low pressure systems are as follows:

2nd - 3rd:	Northern Great Lakes
4th:	Great Lakes
5th:	Atlantic Seaboard
10th:	Pacific Northwest
12th:	Northern Great Lakes
13th:	Great Lakes
14th:	New England
18th:	Northern Great Lakes
20th - 21st:	New England
22nd - 23rd:	Great Lakes
26th:	Mississippi Valley
27th:	Great Lakes
28th:	New England

On a sectional basis, the following temperature and precipitation anomalies existed during February.

Section	Temperature	Precipitation
Northeast	Near normal	Slightly below normal
Atlantic Seaboard	Near normal	Much below normal
North Central	Above normal	Below normal
Central	Slightly above normal	Slightly below normal
Southeast	Slightly below normal	Below normal
Southwest	Near normal	Variable; mostly slightly below normal
Rockies	Much above normal	Much below normal
West and Pacific Northwest	Above normal	Much below normal

B. Summary of the Meteorological Conditions in Northwestern and West Central Colorado During February 1977

Grand Junction, Colorado, sixty miles to the south-southwest of the Tract C-b, received a total of 0.06 inch of precipitation during February, which is 0.55 inch below the monthly normal of 0.61 inch. Grand Junction received only a trace of snow during February. Measurable precipitation occurred only on the 22nd. The region received 91 percent of the possible monthly sunshine. Sky cover by cloudiness averaged 5.0 out of a possible 10 during the daylight hours and 4.2 out of a possible 10 during the entire month. The region had nine clear days, eight partly cloudy days, and eleven cloudy days during the month.

Five frontal passages occurred during February. These frontal passages occurred during the latter half of the month as a long wave ridge dominated the western sections of the country. Temperatures in the Tract C-b were cool due to seasonal influences. Transport winds were stronger in February than in January. Maritime polar cold frontal passages occurred on the 11th, 13th, 22nd, and 24th. A weak continental polar cold frontal passage occurred on the 26th.

C. Summary of the Meteorological Conditions in the Oil Shale Tract C-b Region during February 1977

An upper-level ridge which had a mean position over the western United States was responsible for the below normal precipitation totals which occurred in the Tract C-b region during February. Precipitation occurred on the 22nd and 26th of February. Some minor troughing in the western United States was responsible for the precipitation. Temperatures in the Tract C-b region were above normal during February since most of the extremely cold continental polar air masses were directed toward the eastern half of the United States during the month.

Five frontal passages occurred during February. Maritime polar cold frontal passages occurred on the 11th, 13th, 22nd, and 24th. A weak continental polar cold frontal passage occurred on the 26th.

The monthly average temperatures recorded at the meteorological tower during February were: 29.2°F at 8 feet; 28.9°F at 30 feet; 29.3°F at 100 feet; and 27.0°F at 200 feet. These averages are approximately 6F° higher than those recorded in January. The warmest days of the month were the 16th through the 21st. The coolest days were the 25th through the 27th. The highest temperature recorded at the meteorological tower during February was 55°F at the 8-foot level on the 20th. The coldest temperature recorded at the meteorological tower was 6°F at the 8-foot level on the morning of the 26th.

Monthly average relative humidities during February were lower than they had been in January in the Tract C-b region. This decrease can be attributed to an increase in monthly average temperatures. At the meteorological tower, the monthly average relative humidities were: 64.3 percent at 8 feet; 69.9 percent at 100 feet; and 66.0 percent at 200 feet. These relative humidities correspond to dew points of 18.5°F, 20.5°F, and 18°F, respectively. The relative humidity sensor at the 30-foot level was inoperative for most of the month. The most humid days of the month were the 2nd, 22nd, 25th, and 26th. The driest days were the 8th, 9th, 10th, 17th, 18th, 20th, and 21st.

Wind speeds on the meteorological tower during February were approximately the same on the average as the winds that prevailed during January. Resultant wind vectors at the meteorological tower during February were: 254.8 degrees at 1.3 miles per hour at 8 feet; 251.3 degrees at 1.9 miles per hour at 30 feet; 259.1 degrees at 2.2 miles per hour at 100 feet; and 262.0 degrees at 2.9 miles per hour at 200 feet.

The scalar average wind speeds associated with these resultant wind vectors were 3, 5, 6, and 7 miles per hour, respectively. The Ekman spiral and Ekman effect, i.e., a veering in direction and increase in speed as a function of increasing height above the surface, were in evidence during most of February. A reference to the February wind roses for the meteorological tower indicates that the winds at that location were primarily west-northwesterly at all four levels.

The windiest days of the month at the meteorological tower were the 21st through the 25th and the 28th. The days having the lightest winds were the 3rd, 5th, 6th, 7th, and 10th. The highest five-minute average wind speed recorded at the tower during February was 38 miles per hour at the 200-foot level on the 21st.

Precipitation totals in the Tract C-b Monitoring Network during February were generally very much below normal.

Only 0.04 inch of precipitation was recorded at the meteorological tower during February. The largest daily precipitation total recorded in the network during February was 0.03 inch on February 22nd. The greatest five-minute precipitation total recorded during the month was 0.01 inch (a precipitation rate of 0.12 inch/hour), recorded on the 22nd and 26th. Measurable precipitation ($\geq$.01 inch) was recorded at the meteorological tower on the 22nd and 26th. The precipitation was in the form of snow.

The monthly average station pressure during February was 790.6 millibars at the meteorological tower. This reading is 2.5 millibars higher than the January average station pressure of 788.1 millibars. The highest daily average station pressures occurred on the 7th, 12th, and 19th. The lowest daily average station pressures occurred from the 21st through the 25th.

Cloudiness decreased in the Tract C-b region during February, compared to the January cloud cover and insolation statistics. The region received an insolation total of 7844.1 langleys, which is equivalent to a daily average insolation total of 280 langleys/day. This average is slightly below the normal for February of 300 langleys/day in the Tract C-b region. On a diurnal basis, the greatest solar radiation rates occurred between 1100 and 1300 hours. The greatest daily radiation totals were received on the 19th, 20th, 23rd, 27th, and 28th. The lowest daily solar radiation totals were received on the 1st, 2nd, and 22nd. The greatest five-minute radiation total received during January was 6.60 langleys (a rate of 1.32 langleys/minute), which occurred on the 27th. The largest hourly insolation total received during February was 63 langleys, which occurred on the 27th between 1100 and 1200 hours.

Because of the progressively increasing solar elevations and the increasingly longer periods of daylight that prevailed during February, the total possible solar radiation which could be received during a day increased monotonically throughout the month.

The increase in insolation which affected the Tract C-b during February caused the "very unstable" stability classes to become more common than they had been in January. Using the Pasquill method of stability determination, "D" stability (neutral stability) was the most common stability, occurring during 87 daytime hours, or 42.4 percent of the time. In decreasing order of frequency, "C" (slightly unstable) stability occurred during 76 hours, or 37.1 percent of the time, and "B" (very unstable) stability occurred during 41 hours, or 20.0 percent of the time. "A" (extremely unstable) stability occurred during only one daytime hour.

Using the lapse rate method of stability determination $\left(\frac{dT}{dZ}\right)$, the very unstable ("B"), slightly stable ("E"), and extremely stable ("F") stability classes were the most prevalent during February. In general, stable and/or neutral conditions prevailed during the nighttime hours and unstable and/or neutral conditions prevailed during the day. The following table is a diurnal breakdown of the various stability classes. As one proceeds from "A" to "F", the stability class ranges from extremely unstable to extremely stable. The column labeled "number of occurrences" indicates the number of times a particular stability class occurred during the month on an hourly basis. Level I presents the temperature change versus height values $\left(\frac{dT}{dZ}\right)$ that were considered between 30 feet and 100 feet. Level II indicates the values that were considered between 30 feet and 200 feet.

Using the standard deviation of the horizontal wind (σ_Θ) method of stability determination, "D" stability was the most common stability classification at the meteorological tower because of the moderately strong winds that normally occurred at that location. The stability distributions for the 30-, 100-, and 200-foot levels were similar. The 8-foot level of the tower exhibited higher percentages of the unstable classes because of excessive mechanical turbulence.

The bivanes at the 30-, 100-, and 200-foot levels of the meteorological tower indicated a pattern of upward vertical motion (negative vertical directions) during February. Upward vertical motion was more pronounced during the nighttime hours at the 100-foot level during February (probably because of lower wind speeds), but this diurnal pattern was reversed (i.e., upward motions were less pronounced) at the 200-foot tower level. At the 30-foot level, downward vertical motions were greatest during the daytime hours, a result which is quite unusual considering the proximity of the sensing level to the ground. Upward vertical motions were greatest during nighttime and early morning hours.

The σ_Θ values obtained at the 30-, 100-, and 200-foot levels using the bivanes compared favorably with the σ_Θ values obtained at those levels using the standard wind instrumentation. However, σ_Θ values were obtained only for the first three days of February.

LEVEL I $(\frac{dT}{dZ})$ 30 feet to 100 feet

Stability Class /Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:	0	0	0	0	0	0	0	0	1	4	15	10	8	5	4	2	0	0	0	0	0	0	0	0	49
B:	0	0	0	0	0	0	0	0	1	9	9	15	17	18	19	18	19	0	0	0	0	0	0	0	125
C:	0	0	0	0	0	0	0	0	2	1	1	2	3	3	4	6	6	0	0	0	0	0	0	0	28
D:	5	3	3	3	4	4	4	3	3	9	2	1	0	2	1	2	3	24	8	5	4	3	2	3	101
E:	5	6	2	5	2	4	3	5	6	3	1	0	0	0	0	0	0	4	14	9	11	9	5	6	100
F:	18	19	23	20	22	20	21	20	15	2	0	0	0	0	0	0	0	0	6	14	13	16	21	19	269

A: extremely unstable
B: very unstable
C: slightly unstable
D: neutral
E: slightly stable
F: extremely stable

LEVEL II $(\frac{dT}{dZ})$ 30 feet to 200 feet

Stability Class /Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:	2	0	0	0	0	2	4	2	5	11	19	19	9	5	4	3	1	4	2	1	1	1	0	1	87
B:	1	4	5	4	3	3	1	2	3	6	7	17	16	18	19	18	22	18	6	3	3	3	2	2	186
C:	2	0	0	0	2	1	1	2	3	3	2	0	3	3	4	5	3	4	5	2	0	1	2	1	49
D:	3	5	4	3	1	0	0	3	0	5	0	1	0	2	1	2	2	2	8	10	11	8	6	4	81
E:	15	12	10	16	13	10	14	6	10	2	0	0	0	0	0	0	0	0	6	9	9	12	17	16	177
F:	5	7	9	5	9	12	8	13	7	1	0	0	0	0	0	0	0	0	1	3	4	3	1	4	92

VI. DATA PRESENTATION AND SUMMARY

This section includes summaries for various recorded data at the monitoring sites. The data presentations indicate the variability of pollutant concentrations and meteorological parameters with location and time. In addition, the presentations indicate the functional dependence of pollutant concentration with wind direction. All data except suspended particulates (24-hour samples) are sampled once each second, but recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values, and is especially evident when comparing wind gusts to local weather bureau data.

Inherent to any data acquisition system is random noise both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for all instruments, except for the ozone analyzer, for which it is 0.5 ppb. Therefore, any values appearing in the data presentations that are less than 5 ppb indicate only a trace of pollutant in question and should not be construed to be absolute levels. In addition, the recorded quantity is simply random noise and averages tend toward zero. Thus, when concentrations are below the lower threshold of the analytical instruments they may appear as a zero entry in the data presentation which does not indicate absolute zero concentration.

All pollutant data (except for particulate data) is taken at the monitoring site in integer parts per billion (ppb) but is presented here in micrograms per cubic meter ($\mu g/m^3$)

assuming standard temperature and pressure of 25°C and 760 mmHg (1013.2 millibars), respectively. The scale factors required to convert μg/m³ at standard conditions back to ppb for the various pollutants are given in the following table.

POLLUTANT	TO CONVERT μg/m³ AT 25°C AND 760 mmHg TO ppb MULTIPLY BY
NO_x	.534
NO	.534
NO_2	.534
SO_2	.384
H_2S	.723
THC	1.536
CH_4	1.536
CO	.877
O_3	.512

The units of the meteorological parameters are given in the table. It should be noted here that inside temperature is monitored and recorded as a functional part of the system but is not presented in this report.

Table III displays the monthly statistics for each monitoring station for the month. To insure statistical significance, and to reduce the possibility of introducing a bias in the presentation, averages are computed only when at least 50 percent of the samples are present, except for relative humidity and temperature, in which case 75 percent of the samples are required. If less than the required samples are present for a particular parameter, that entry will be blank. The number of

samples present for a particular channel is defined as the total possible number of five-minute samples for the averaging time less the computer downtime less the channel downtime less the channel calibration time. The averages in Table III are arithmetic averages with the following exceptions:

- Wind speed and wind direction are computed using a vector averaging technique where the wind speed is treated as the vector magnitude.
- Particulate averages are computed as the geometric mean.

Table IV displays the daily averages. Again, 50 percent of the five-minute samples are required in order to compute an average except for the cases of relative humidity and temperature which require 75 percent. A blank entry indicates an insufficient number of five-minute samples present for that day. Wind speed, wind direction, and particulate averages are computed the same way as described in Table III.

Table V presents the maximum daily five-minute average retained in the data base as well as the time of occurrence. A five-minute maximum average is printed if any samples are present for that day. Therefore, the maximum five-minute average for a channel which experienced considerable downtime or calibration time during the day in question may be misrepresentative of the maximum expected for that channel on that day.

Table VI indicates the five largest averages for various averaging times. The table shows the period of time covered by the average. Maxima are chosen so that time segments

are independent. The maximum averages reported are found using a 'sliding average' technique with the exception of the 24-hour particulate average, which is computed from midnight to midnight. For averaging times less than or equal to three hours, the sliding average is stepped one five-minute sample at a time. For longer averaging times the step size is twelve samples or one hour. For averaging times less than or equal to one hour 100 percent of the five-minute samples must be present to compute an average. Averaging times greater than one hour require 90 percent. Whether or not a sliding average is computed is solely determined by the number of samples present in that averaging time and is independent of daily and monthly averaging criteria.

To demonstrate the functional dependence of recorded parameters upon wind direction, Table VII shows pollutant concentration displayed in a bi-variate distribution with wind direction. The tables display the total number of five-minute samples occurring in each concentration and wind speed class. The mean concentration for all samples occurring in each wind class are also shown. This distribution demonstrates the dependence of high pollutant concentrations upon wind direction. Appendix A shows the stability wind rose diagrams.

The wind speed classifications used in Appendix A are based on the Beaufort wind scale classification system. This is a system of estimating and reporting wind speeds, invented in the early nineteenth century by Admiral Beaufort of the British Navy. It was originally based on the effects of various wind speeds on the amount of canvas that a full-rigged frigate of the period could carry, but has since been modified and modernized. In its present form for international meteorological use it equates: (a) Beaufort force (or Beaufort number); (b) wind speed;

(c) descriptive terms; and (d) visible effects upon land objects or the sea surface. One land adaptation is the NRM wind scale.

The six basic wind speed classifications used in the report are: 1-3 knots, 4-6 knots, 7-10 knots, 11-16 knots, 17-21 knots, and winds of greater than 21 knots. The following table is a complete description of the Beaufort Wind Scale, taken from *Physical Climatology*, by Helmut Landsberg, 1969.

BEAUFORT WIND SCALE FOR OBSERVATIONS AT LAND STATIONS

Force	Explanatory Title	Specification for Use	Corresponding Limits of Wind Speed at 10 meters ab.grd.				
			Mi/hr.	Knots	Km/hr.	M/sec.	Ft/sec.
0	Calm	Smoke rises vertically	<1	<1	<1	0.3	1
1	Light air	Direction of wind shown by smoke drift, but not by wind vanes	1-3	1-3	1-5	0.3-1.5	1-5
2	Light breeze	Wind felt on face:leaves rustle:ordinary vane moved by wind	4-7	4-6	6-11	1.6-3.3	6-11
3	Gentle breeze	Leaves and small twigs in constant motion;wind extends light flat	8-12	7-10	12-19	3.4-5.4	12-18
4	Moderate breeze	Raises dust and loose paper:small branches are moved	13-18	11-16	20-28	5.5-7.9	19-26
5	Fresh breeze	Small trees in leaf begin to sway:wavelets formed on inland waters	19-24	17-21	29-38	8.0-10.7	27-35
6	Strong breeze	Large branches in motion:whistling heard in telegraph wires:umbrellas used with difficulty	25-31	22-27	39-49	10.8-13.8	36-45
7	High wind	Whole trees in motion:inconvenience felt when walking against wind	32-38	28-33	50-61	13.9-17.1	46-56
8	Fresh gale	Breaks twigs off trees:generally impedes progress	39-46	34-40	62-74	17.2-20.7	57-68
9	Strong gale	Slight structural damage occurs (chimney pots and slates removed)	47-54	41-47	75-88	20.8-24.4	69-80
10	Whole gale	Seldom experienced inland:trees uprooted: considerable structural damage occurs	55-63	48-55	89-102	24.5-28.4	81-93
11	Storm	Very rarely experiences:accompanied by widespread damage	64-72	56-63	103-117	28.5-32.6	94-106
12	Hurricane		73-82	64-71	118-133	32.7-36.9	107-121
13			83-92	72-80	134-149	37.0-41.4	122-136
14			93-102	81-89	150-166	41.5-46.1	137-151
15			104-114	90-99	167-183	46.2-50.9	152-166
16			115-125	100-108	184-201	51.0-56.0	167-183
17			126-136	109-118	202-220	56.1-61.2	184-201

Source: Table 36 (p.119) in R.J. List (1951):Smithsonian Meteorological Tables:Smithsonian Miscell.Coll.Vol. 114.

Table VIII demonstrates the diurnal variation of various recorded parameters. Hourly averages are determined by arithmetically averaging five-minute samples, except for wind direction averages which are computed vectorially assuming unit vector magnitudes. Totals in the diurnal wind direction tables are vector averages of the columns and rows. For all parameters, a blank entry in the diurnal variation table indicates that less than half (i.e., less than 6) of the five-minute samples for that hour are present.

All times given in the data presentation are Mountain Standard Time.

To facilitate comparison of recorded concentrations to ambient air quality standards, the following regulations are presented.

TABLE II

FEDERAL AND COLORADO STANDARDS

	Primary	Secondary	Non-Designated Area	Designated Area		
				1973	1976	1980
Particulate						
Annual G. M.	75 μg/m^3	60 μg/m^3	45 μg/m^3	70 μg/m^3	55 μg/m^3	45 μg/m^3
24 Hr. Max.*	260	150	150	200	180	150
Sulfur Oxides						
Annual	80(.03ppm)		--	60(.02ppm)	25(.009ppm)	10(.004ppm)
24 Hr. Max.*	365(.14ppm)		15(.005ppm)	300(.1ppm)	150(.05ppm)	55(.02ppm)
3 Hr. Max.*	--	1300(.5ppm)	--	--	--	--
1 Hr. Max.**	--	--	--	800(.28ppm)	300(.1ppm)	--
Oxidant						
1 Hr. Max.*	160(.08ppm)	160				
8 Hr. Max.*	--	--				
Annual	--	--				
Hydrocarbons						
3 Hr. Max.* 6-9 a.m.	160(.24ppm)	160				
Carbon Monoxide						
Max. 8 Hrs.*	10000(9ppm)	10000				
Max. 1 Hr.*	40000(35ppm)	40000				
Nitrogen Dioxide						
Annual	100(.05ppm)	100				

Units are micrograms per cubic meter and ppm in parenthesis.

*Not to be exceeded more than once per year.

**Not to be exceeded more than once per month.

TABLE III
AVERAGES FOR FEBRUARY 1 THRU 28

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                          TABLE III. AVERAGES FOR FEB    1 THRU 28
          (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

       NITROGEN OXIDES(NOX)                 NITRIC OXIDE(NO)                  NITROGEN DIOXIDE(NO2)

  SITE    023                                023                               023
           .1                                 .0                                .1
-------------------------------------------------------------------------------------------------

        SULFUR DIOXIDE(SO2)                   PYRANOMETER                        HYDROGEN SULFIDE

  SITE    023                                023                               023
           .4                             7844.1                                .1
-------------------------------------------------------------------------------------------------

        TOTAL HYDROCARBONS                      METHANE                      NON-METHANE HYDROCARBONS

  SITE    023                                023                               023
       1007.8                              745.8                             254.3
-------------------------------------------------------------------------------------------------

         CARBON MONOXIDE                         OZONE                          BAROMETRIC PRESSURE

  SITE    023                                023                               023
        312.0                               74.3                             790.6
-------------------------------------------------------------------------------------------------

        TOTAL PRECIPITATION                   PARTICULATE

  SITE    023                                023
          .00                                6.7
-------------------------------------------------------------------------------------------------
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                              TABLE III. AVERAGES FOR FEB   1 THRU 28
              (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                      TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                      PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                               WIND SPEED

SITE 023
      (  8-FT)                ( 30-FT)                  (100-FT)                  (200-FT)
        1.3                     1.9                       2.2                       2.9
-----------------------------------------------------------------------------------------------------

                                             WIND DIRECTION

SITE 023
      (  8-FT)                ( 30-FT)                  (100-FT)                  (200-FT)
      254.8                   251.3                     259.1                     262.0
-----------------------------------------------------------------------------------------------------

                                           RELATIVE HUMIDITY

SITE 023
      (  8-FT)                ( 30-FT)                  (100-FT)                  (200-FT)
       64.5                                              69.9                      66.0
-----------------------------------------------------------------------------------------------------

                                              TEMPERATURE

SITE 023
      (  8-FT)                ( 30-FT)                  (100-FT)                  (200-FT)
       29.2                    28.9                      29.3                      27.9
-----------------------------------------------------------------------------------------------------
```

TABLE IV
DAILY AVERAGES FOR FEBRUARY 1 THRU 28

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	NITROGEN OXIDES(NOX)	NITRIC OXIDE(NO)	NITROGEN DIOXIDE(NO2)
SITE	023	023	023
DATE			
2/ 1	.0	.0	.0
2/ 2	.0	.0	.0
2/ 3	.6	.1	.5
2/ 4	.7	.1	.6
2/ 5	.0	.0	.0
2/ 6	.1	.0	.0
2/ 7	.0	.0	.0
2/ 8	.0	.0	.0
2/ 9	.0	.0	.0
2/10	.0	.0	.0
2/11	.4	.2	.3
2/12	.0	.0	.0
2/13	.2	.0	.2
2/14	.3	.3	.0
2/15	.0	.0	.0
2/16	.0	.0	.0
2/17	.0	.0	.0
2/18	.1	.0	.1
2/19	.1	.1	.0
2/20	.1	.1	.0
2/21	.1	.1	.0
2/22	.0	.0	.0
2/23	.0	.0	.0
2/24	.0	.0	.0
2/25	.0	.0	.0
2/26	.0	.0	.0
2/27	.0	.0	.0
2/28	.0	.0	.0

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	SULFUR DIOXIDE(SO2)	PYRANOMETER	HYDROGEN SULFIDE
SITE DATE	023	023	023
2/ 1	.0	150.1	.9
2/ 2	.0	177.4	1.0
2/ 3	5.0	318.8	.3
2/ 4	4.8	275.4	.0
2/ 5		227.4	.0
2/ 6		307.6	.0
2/ 7	1.8	318.8	.0
2/ 8	1.2	318.3	.0
2/ 9	.0	264.0	.0
2/10	.0	289.0	.0
2/11	.0	226.1	.2
2/12	.0	282.9	.0
2/13	.0	237.2	.0
2/14	.0	224.7	.5
2/15	.0	300.5	.4
2/16	.0	319.8	.0
2/17	.0	294.0	.0
2/18	.0	304.0	.0
2/19	.0	358.4	.0
2/20	.0	370.8	.0
2/21	.0	283.4	.0
2/22	.3	92.5	.0
2/23	.7	360.5	.0
2/24	.0	312.6	.0
2/25	.0	224.7	.0
2/26	.0	208.9	.0
2/27	.0	409.1	.0
2/28	.0	387.3	.0

TABLE IV, DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	TOTAL HYDROCARBONS	METHANE	NON-METHANE HYDROCARBONS
SITE	023	023	023
DATE			
2/ 1	1072.2		
2/ 2	1037.1	518.9	518.2
2/ 3	1097.7		
2/ 4	1089.5	731.8	357.7
2/ 5	1086.7	679.0	407.7
2/ 6			
2/ 7			
2/ 8	961.2	861.4	99.8
2/ 9	926.7	861.5	65.2
2/10	913.3	901.0	11.2
2/11			
2/12	828.8	767.1	61.7
2/13	822.6	765.7	57.0
2/14	808.0	767.8	40.1
2/15	798.5	733.6	64.9
2/16	825.0	732.1	92.9
2/17	1185.6	746.7	438.9
2/18	1058.2	781.0	277.2
2/19	962.5	749.5	268.2
2/20	1032.7		
2/21			
2/22			
2/23			
2/24	1153.1	720.2	433.0
2/25	1126.2	718.2	408.0
2/26	1110.3	705.7	408.6
2/27	1149.0	696.5	452.5
2/28	1118.2	661.2	457.0

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

	CARBON MONOXIDE	OZONE	BAROMETRIC PRESSURE
SITE	023	023	023
DATE			
2/ 1	256.5	67.1	785.1
2/ 2	270.3	60.0	787.4
2/ 3	255.2	72.2	793.4
2/ 4	221.2	72.9	794.2
2/ 5	351.9	78.6	791.3
2/ 6	264.6	76.3	792.2
2/ 7	372.9	77.0	795.0
2/ 8	381.4	81.6	793.4
2/ 9	381.7	76.3	790.1
2/10	433.2	73.7	792.2
2/11		71.4	794.5
2/12	292.8	68.3	797.0
2/13	273.6	69.6	793.1
2/14	241.1	68.0	793.0
2/15	240.5	75.1	793.6
2/16	250.9	73.3	794.5
2/17	317.8	71.6	793.2
2/18	503.5	75.7	794.5
2/19	541.3	72.6	796.8
2/20	169.6	79.5	793.4
2/21		72.1	783.7
2/22		72.4	776.6
2/23		77.6	782.2
2/24		78.1	781.3
2/25		71.3	784.1
2/26		79.2	787.6
2/27		85.9	792.0
2/28		83.5	790.7

```
                        TABLE IV. DAILY AVERAGES FOR FEB    1 THRU 28
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
             TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
             PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

        TOTAL PRECIPITATION             PARTICULATE

    SITE    023                     023
DATE
------------------------------------------------------------------------------------
 2/ 1                                 3.0
 2/ 2                                 5.0
 2/ 3                                 8.0
 2/ 4
 2/ 5                                17.0
 2/ 6                                 9.0
 2/ 7                                 8.0
 2/ 8                                 5.0
 2/ 9                                 9.0
 2/10                                 6.0
------------------------------------------------------------------------------------
 2/11                                 8.0
 2/12                                 5.0
 2/13                                 5.0
 2/14                                 9.0
 2/15                                 4.0
 2/16                                 7.0
 2/17                                13.0
 2/18                                14.0
 2/19                                 3.0
 2/20                                 7.0
------------------------------------------------------------------------------------
 2/21                                23.0
 2/22          .03                   10.0
 2/23                                 5.0
 2/24                                 4.0
 2/25                                 5.0
 2/26          .01                    4.0
 2/27                                 3.0
 2/28                                11.0
```

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
2/ 1	.2	.2	.4	1.3
2/ 2	2.3	3.7	4.6	5.0
2/ 3	.5	.8	.8	.8
2/ 4	1.9	2.5	3.1	3.4
2/ 5	1.8	2.6	2.7	2.9
2/ 6	1.5	2.1	2.5	2.9
2/ 7	.7	.9	1.4	1.6
2/ 8	1.7	2.7	3.3	2.6
2/ 9	1.3	1.6	1.8	2.4
2/10	1.4	2.1	2.7	3.3
2/11	1.5	2.1	2.9	3.4
2/12	1.0	1.5	2.1	2.8
2/13	.8	.9	1.3	2.3
2/14	1.9	2.6	3.6	4.6
2/15	1.1	1.6	1.8	2.4
2/16	2.8	3.9	5.1	7.0
2/17	2.0	2.9	4.4	6.9
2/18	.9	.9	1.1	1.1
2/19	1.3	1.6	2.0	2.3
2/20	1.7	2.5	3.6	5.4
2/21	6.7	9.2	11.6	14.1
2/22	4.1	6.4	7.5	9.0
2/23	3.7	5.4	6.8	8.3
2/24	5.1	7.2	8.3	9.4
2/25	5.0	7.1	8.6	9.8
2/26	2.3	3.2	3.6	4.4
2/27	1.6	2.6	3.6	4.8
2/28	3.9	6.0	8.1	9.9

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND DIRECTION

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
2/ 1	306.3	288.4	281.1	273.1
2/ 2	296.8	296.3	308.4	322.0
2/ 3	271.6	255.8	295.2	299.7
2/ 4	283.8	283.9	302.6	307.2
2/ 5	195.3	191.1	192.9	206.0
2/ 6	286.1	289.6	306.8	303.0
2/ 7	314.8	325.1	340.5	337.7
2/ 8	153.6	156.1	158.5	176.5
2/ 9	283.5	281.9	317.5	326.4
2/10	284.2	279.6	299.9	308.4
2/11	329.7	337.0	353.4	353.7
2/12	183.7	175.9	184.6	204.7
2/13	307.1	303.3	321.4	308.8
2/14	348.7	354.3	8.5	11.5
2/15	274.8	255.2	248.7	246.0
2/16	194.5	194.8	198.8	206.4
2/17	261.1	249.7	245.3	242.5
2/18	319.4	316.6	344.2	335.5
2/19	296.3	293.9	306.5	303.2
2/20	209.8	206.4	211.3	216.0
2/21	191.0	192.6	198.5	204.2
2/22	275.2	272.1	281.5	283.2
2/23	232.1	232.5	240.7	244.7
2/24	269.5	269.5	275.5	279.5
2/25	335.1	333.3	341.3	342.0
2/26	232.2	232.9	240.7	249.5
2/27	273.4	270.1	275.3	277.7
2/28	185.7	184.5	189.0	195.3

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

RELATIVE HUMIDITY

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
2/ 1	74.7		79.6	76.0
2/ 2	87.9		92.3	89.1
2/ 3	75.1		80.4	75.4
2/ 4	69.1		75.2	70.7
2/ 5	62.4		67.3	63.0
2/ 6	64.4		70.5	66.2
2/ 7	56.1		61.7	57.7
2/ 8	48.0		53.2	50.1
2/ 9	44.3		49.7	46.7
2/10	47.2		53.6	51.0
2/11	65.7		72.8	69.6
2/12	71.1		76.1	73.1
2/13	60.4		65.0	62.6
2/14	79.3		87.5	83.2
2/15	62.2		66.7	62.6
2/16	54.7		59.4	56.1
2/17	49.2		53.7	51.3
2/18	49.5		54.0	51.9
2/19	54.5		58.6	56.7
2/20	44.4		48.8	46.1
2/21	38.8		43.6	41.3
2/22	91.4		96.4	89.6
2/23	75.7		83.4	78.0
2/24	69.4		77.7	72.6
2/25	83.7		90.6	85.4
2/26	83.0		89.7	82.7
2/27	75.6		82.6	76.2
2/28	61.6		67.1	61.7

TABLE IV. DAILY AVERAGES FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

SITE 023

DATE	(8-FT)	(30-FT)	(100-FT)	(200-FT)
2/ 1	28.6	27.7	28.0	26.4
2/ 2	24.7	22.9	22.6	20.7
2/ 3	23.2	23.1	23.9	23.0
2/ 4	25.0	24.8	25.4	24.5
2/ 5	29.5	29.6	30.6	28.7
2/ 6	26.4	26.1	26.4	24.9
2/ 7	27.0	27.4	28.2	27.5
2/ 8	32.0	31.9	33.0	32.0
2/ 9	29.8	30.4	31.1	30.3
2/10	29.4	29.8	30.4	28.7
2/11	27.9	27.9	28.9	27.0
2/12	30.1	29.9	30.9	29.3
2/13	33.9	34.4	35.3	33.9
2/14	28.3	27.4	27.5	26.0
2/15	32.5	32.9	33.3	32.7
2/16	37.1	37.6	38.4	37.6
2/17	39.5	40.0	40.8	39.5
2/18	37.6	38.3	38.9	37.7
2/19	35.9	36.9	37.7	36.6
2/20	39.8	40.6	41.4	40.5
2/21	43.3	43.7	43.7	42.1
2/22	27.1	25.4	25.1	23.0
2/23	24.0	22.4	22.4	20.7
2/24	25.5	23.6	23.2	21.3
2/25	18.7	16.5	16.0	14.4
2/26	16.7	15.1	15.1	13.7
2/27	18.9	17.2	16.6	15.1
2/28	26.1	25.2	25.4	24.3

TABLE V
MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEBRUARY 1 THRU 28

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          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB    1 THRU 28
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
              TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                    NITROGEN OXIDES(NOX)

      SITE      023
DATE
------------------------------------------------------------------------------------------
 2/ 1         .0( 9:35)
 2/ 2         .0( 0:00)
 2/ 3        1.9(13:05)
 2/ 4        1.9( 0:00)
 2/ 5         .0( 0:00)
 2/ 6        1.9( 6:05)
 2/ 7        1.9( 0:00)
 2/ 8         .0( 0:00)
 2/ 9        1.9(14:10)
 2/10        1.9(12:10)
------------------------------------------------------------------------------------------
 2/11        1.9( 0:25)
 2/12        1.9( 4:30)
 2/13        1.9( 2:05)
 2/14       16.9(10:00)
 2/15        1.9( 0:00)
 2/16         .0( 0:00)
 2/17        5.6(15:45)
 2/18        1.9( 0:30)
 2/19        1.9( 2:05)
 2/20        1.9( 2:05)
------------------------------------------------------------------------------------------
 2/21        1.9( 3:05)
 2/22         .0( 0:00)
 2/23        1.9(17:00)
 2/24        1.9( 3:15)
 2/25       11.2( 8:50)
 2/26         .0( 0:00)
 2/27         .0( 0:00)
 2/28         .0( 0:00)
```

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          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB    1 THRU 28
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
          TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
          PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              NITRIC OXIDE(NO)

    SITE      023
DATE
------------------------------------------------------------------------------------------
 2/ 1        .0( 9:35)
 2/ 2        .0( 0:00)
 2/ 3       1.9(16:25)
 2/ 4       1.9( 0:05)
 2/ 5        .0( 0:00)
 2/ 6       1.9( 6:05)
 2/ 7       1.9( 0:00)
 2/ 8        .0( 0:00)
 2/ 9        .0( 0:00)
 2/10       1.9(12:10)
------------------------------------------------------------------------------------------
 2/11       1.9( 0:25)
 2/12        .0( 0:00)
 2/13        .0( 0:00)
 2/14      16.9(10:00)
 2/15       1.9( 0:00)
 2/16        .0( 0:00)
 2/17       5.6(15:45)
 2/18       1.9(10:30)
 2/19       1.9( 2:05)
 2/20       1.9( 2:05)
------------------------------------------------------------------------------------------
 2/21       1.9( 3:05)
 2/22        .0( 0:00)
 2/23       1.9(17:35)
 2/24       1.9( 3:15)
 2/25      11.2( 8:50)
 2/26        .0( 0:00)
 2/27        .0( 0:00)
 2/28        .0( 0:00)
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        TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
      (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
              TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                   NITROGEN DIOXIDE(NO2)

     SITE       023
DATE
------------------------------------------------------------------------------------------------
 2/ 1           .0( 9:35)
 2/ 2           .0( 0:00)
 2/ 3          1.9(13:05)
 2/ 4          1.9( 0:00)
 2/ 5           .0( 0:00)
 2/ 6          1.9( 8:10)
 2/ 7           .0( 0:00)
 2/ 8           .0( 0:00)
 2/ 9          1.9(14:10)
 2/10          1.9(12:35)
------------------------------------------------------------------------------------------------
 2/11          1.9(12:00)
 2/12          1.9( 4:30)
 2/13          1.9( 2:05)
 2/14           .0( 0:00)
 2/15          1.9( 1:05)
 2/16           .0( 0:00)
 2/17          1.9(20:30)
 2/18          1.9( 0:30)
 2/19           .0( 0:00)
 2/20           .0( 0:00)
------------------------------------------------------------------------------------------------
 2/21           .0( 0:00)
 2/22           .0( 0:00)
 2/23          1.9(17:00)
 2/24          1.9( 3:35)
 2/25           .0( 0:00)
 2/26           .0( 0:00)
 2/27           .0( 0:00)
 2/28           .0( 0:00)
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              TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
           (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                   TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                   PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                          SULFUR DIOXIDE(SO2)

    SITE      023
DATE
-----------------------------------------------------------------------------------------------------
 2/ 1          .0( 0:00)
 2/ 2          .0( 0:00)
 2/ 3        15.6(16:30)
 2/ 4        15.6( 1:10)
 2/ 5        10.4( 4:25)
 2/ 6         7.8(18:00)
 2/ 7        13.0(17:15)
 2/ 8        13.0( 1:25)
 2/ 9          .0( 0:00)
 2/10         5.2(13:55)
-----------------------------------------------------------------------------------------------------
 2/11          .0( 0:00)
 2/12          .0( 0:00)
 2/13          .0( 0:00)
 2/14         2.6( 3:50)
 2/15          .0( 0:00)
 2/16          .0( 0:00)
 2/17         2.6(15:35)
 2/18          .0( 0:00)
 2/19          .0( 0:00)
 2/20          .0( 0:00)
-----------------------------------------------------------------------------------------------------
 2/21          .0( 0:00)
 2/22         5.2(22:45)
 2/23         2.6( 0:20)
 2/24          .0( 0:00)
 2/25          .0( 0:00)
 2/26          .0( 0:00)
 2/27          .0( 0:00)
 2/28          .0( 0:00)
```

```
          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
           TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
           PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                PYRANOMETER

    SITE      023
DATE
------------------------------------------------------------------------------------------------
 2/ 1       5.45(13:20)
 2/ 2       4.65(13:45)
 2/ 3       4.15(12:20)
 2/ 4       4.20(12:00)
 2/ 5       3.30(13:55)
 2/ 6       4.35(12:50)
 2/ 7       4.30(12:15)
 2/ 8       4.30(12:15)
 2/ 9       4.35(11:50)
 2/10       4.40(12:20)
------------------------------------------------------------------------------------------------
 2/11       5.25(12:05)
 2/12       5.25(13:00)
 2/13       4.65(12:15)
 2/14       4.60(12:25)
 2/15       4.75(11:30)
 2/16       4.80(12:20)
 2/17       4.25(12:35)
 2/18       5.65(11:50)
 2/19       4.65(12:20)
 2/20       4.75(12:05)
------------------------------------------------------------------------------------------------
 2/21       4.30(11:00)
 2/22       1.65(14:15)
 2/23       6.35(13:00)
 2/24       5.80(11:40)
 2/25       4.95(13:45)
 2/26       5.15(11:10)
 2/27       6.60(10:40)
 2/28       5.10(11:55)
```

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           TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
             TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
             PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              HYDROGEN SULFIDE

    SITE      023
DATE
-----------------------------------------------------------------------------------------
 2/ 1        2.8(10:00)
 2/ 2        2.8( 1:10)
 2/ 3        5.5(13:20)
 2/ 4         .0( 0:00)
 2/ 5         .0( 0:00)
 2/ 6         .0( 0:00)
 2/ 7         .0( 0:00)
 2/ 8         .0( 0:00)
 2/ 9         .0( 0:00)
 2/10         .0( 0:00)
-----------------------------------------------------------------------------------------
 2/11        4.2(14:40)
 2/12         .0( 0:00)
 2/13         .0( 0:00)
 2/14        2.8(13:25)
 2/15        2.8(12:00)
 2/16         .0( 0:00)
 2/17        9.7(13:35)
 2/18       11.1(15:00)
 2/19         .0( 0:00)
 2/20         .0( 0:00)
-----------------------------------------------------------------------------------------
 2/21         .0( 0:00)
 2/22         .0( 0:00)
 2/23         .0( 0:00)
 2/24         .0( 0:00)
 2/25        1.4( 9:25)
 2/26         .0( 0:00)
 2/27         .0( 0:00)
 2/28         .0( 0:00)
```

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          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
     (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
            TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
              PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                               TOTAL HYDROCARBONS

    SITE      023
DATE
------------------------------------------------------------------------------------------------
 2/ 1      1295.9(15:50)
 2/ 2      1324.6( 4:55)
 2/ 3      2349.6(12:10)
 2/ 4      1338.9(12:55)
 2/ 5      1241.9(11:15)
 2/ 6      1326.6(10:35)
 2/ 7      1510.9(10:15)
 2/ 8      1141.6(13:50)
 2/ 9      1388.4(11:45)
 2/10      1049.8(15:00)
------------------------------------------------------------------------------------------------
 2/11      2471.4(15:40)
 2/12      1555.8(23:35)
 2/13       974.9(10:50)
 2/14       898.7( 1:10)
 2/15      1186.5(18:35)
 2/16      3228.8( 5:50)
 2/17      3254.2( 1:45)
 2/18      3256.2( 3:10)
 2/19      1549.3(14:10)
 2/20      3256.2( 6:10)
------------------------------------------------------------------------------------------------
 2/21      3015.8(11:00)
 2/22
 2/23      1221.1(18:50)
 2/24      2333.4(13:45)
 2/25      1295.9(19:20)
 2/26      1454.8(10:30)
 2/27      1436.6( 9:45)
 2/28      1172.2(13:55)
```

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              TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
         (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        METHANE

    SITE      023
DATE
---------------------------------------------------------------------------------------------
 2/ 1
 2/ 2       575.7(19:50)
 2/ 3      2349.6(12:10)
 2/ 4       914.3(17:00)
 2/ 5       828.4( 0:05)
 2/ 6
 2/ 7       936.5(10:15)
 2/ 8       883.1( 2:20)
 2/ 9      1043.3(11:50)
 2/10       997.0(11:45)
---------------------------------------------------------------------------------------------
 2/11      2471.4(15:40)
 2/12      1555.8(23:35)
 2/13       845.9(23:30)
 2/14       871.3( 1:15)
 2/15       753.5(11:05)
 2/16       756.7(12:10)
 2/17      1991.5(22:50)
 2/18      2645.3( 3:45)
 2/19       831.6( 4:25)
 2/20
---------------------------------------------------------------------------------------------
 2/21
 2/22
 2/23      1161.1(18:50)
 2/24      1121.4(19:35)
 2/25      1218.5(22:40)
 2/26      1116.2(20:25)
 2/27      1436.6( 9:45)
 2/28      1135.7( 6:55)
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                    TABLE V, MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
              (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                             NON-METHANE HYDROCARBONS

     SITE       023
DATE
--------------------------------------------------------------------------------------------------------------
 2/ 1
 2/ 2        785.4( 4:55)
 2/ 3        803.6(12:00)
 2/ 4        663.0(12:55)
 2/ 5        583.5(16:30)
 2/ 6
 2/ 7        970.3(10:20)
 2/ 8        294.4(13:50)
 2/ 9        390.1(11:45)
 2/10        574.4(15:20)
--------------------------------------------------------------------------------------------------------------
 2/11        362.7(14:25)
 2/12        128.9(11:00)
 2/13        207.1(10:50)
 2/14        330.8( 9:10)
 2/15        476.0(16:35)
 2/16       2545.0( 5:50)
 2/17       2599.1( 1:45)
 2/18       2535.9( 3:10)
 2/19        954.1(14:35)
 2/20
--------------------------------------------------------------------------------------------------------------
 2/21
 2/22
 2/23        507.3(15:45)
 2/24       1753.1(13:45)
 2/25        899.3(23:35)
 2/26        896.7(10:30)
 2/27       1016.6(16:25)
 2/28        650.6( 1:05)
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           TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
        (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR,
               TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
               PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        CARBON MONOXIDE

   SITE      023
DATE
----------------------------------------------------------------------------------------------------
 2/ 1       316.8( 3:15)
 2/ 2       355.6(10:25)
 2/ 3      2939.2(11:35)
 2/ 4      2331.7(15:35)
 2/ 5      4737.5(11:25)
 2/ 6       367.0(11:15)
 2/ 7      3913.6(10:15)
 2/ 8       784.1(23:30)
 2/ 9      2159.6(13:15)
 2/10      2271.3(15:00)
----------------------------------------------------------------------------------------------------
 2/11       606.3(11:55)
 2/12       629.1(16:00)
 2/13      4141.5(14:05)
 2/14      4258.9( 9:05)
 2/15      4403.6( 9:35)
 2/16       355.6(17:35)
 2/17      2493.6(18:10)
 2/18      2487.9( 4:00)
 2/19       650.7(14:00)
 2/20      2638.3( 5:00)
----------------------------------------------------------------------------------------------------
 2/21
 2/22
 2/23
 2/24
 2/25
 2/26
 2/27
 2/28
```

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       TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
   (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
         TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
         PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                        OZONE

    SITE      023
DATE
--------------------------------------------------------------------------------------------
 2/ 1        78.1(14:50)
 2/ 2        78.1(16:35)
 2/ 3        84.0(14:10)
 2/ 4        84.0(11:35)
 2/ 5        89.9(14:45)
 2/ 6        86.0(16:50)
 2/ 7        89.9(12:15)
 2/ 8        89.9(13:10)
 2/ 9        84.0(12:00)
 2/10        82.1(14:55)
--------------------------------------------------------------------------------------------
 2/11        78.1( 0:45)
 2/12        80.1(12:20)
 2/13        80.1(15:10)
 2/14        78.1(13:05)
 2/15        82.1( 9:55)
 2/16        82.1(10:40)
 2/17        80.1(16:20)
 2/18        84.0(11:20)
 2/19        84.0(15:05)
 2/20        87.9(10:55)
--------------------------------------------------------------------------------------------
 2/21        80.1( 2:20)
 2/22        86.0(12:30)
 2/23        86.0(13:00)
 2/24        89.9(11:50)
 2/25        84.0(14:20)
 2/26        97.7(19:05)
 2/27        95.7(16:00)
 2/28        91.8( 0:45)
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            TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB    1 THRU 28
         (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
               TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
                PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                              BAROMETRIC PRESSURE

    SITE      023
DATE
--------------------------------------------------------------------------------------------------
 2/ 1       787.0( 0:00)
 2/ 2       792.0(23:25)
 2/ 3       795.0(11:00)
 2/ 4       796.0( 9:15)
 2/ 5       794.0( 0:00)
 2/ 6       794.0(10:35)
 2/ 7       796.0( 7:45)
 2/ 8       796.0( 2:00)
 2/ 9       792.0( 3:00)
 2/10       794.0(12:00)
--------------------------------------------------------------------------------------------------
 2/11       797.0(21:10)
 2/12       799.0( 9:05)
 2/13       796.0( 2:00)
 2/14       794.0(11:05)
 2/15       795.0( 0:00)
 2/16       796.0( 6:00)
 2/17       794.0( 1:00)
 2/18       796.0(21:45)
 2/19       798.0( 7:50)
 2/20       797.0( 0:40)
--------------------------------------------------------------------------------------------------
 2/21       790.0( 0:00)
 2/22       781.0(22:50)
 2/23       785.0( 9:20)
 2/24       783.0(10:30)
 2/25       788.0(22:35)
 2/26       790.0(23:25)
 2/27       794.0( 8:40)
 2/28       794.0( 8:45)
```

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      TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
   (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
          TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
          PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                    TOTAL PRECIPITATION

    SITE      023
DATE
------------------------------------------------------------------------------------------------
 2/ 1
 2/ 2
 2/ 3
 2/ 4
 2/ 5
 2/ 6
 2/ 7
 2/ 8
 2/ 9
 2/10
------------------------------------------------------------------------------------------------
 2/11
 2/12
 2/13
 2/14
 2/15
 2/16
 2/17
 2/18
 2/19
 2/20
------------------------------------------------------------------------------------------------
 2/21
 2/22         .01( 2:20)
 2/23
 2/24
 2/25
 2/26         .01(19:15)
 2/27
 2/28
```

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB 1 THRU 28
(UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED - WIND DIRECTION

SITE 023

DATE	(8-FT)		(30-FT)		(100-FT)		(200-FT)	
2/ 1	8.0	299.0(16:55)	11.0	295.0(16:55)	13.0	296.0(17:00)	12.0	300.0(16:50)
2/ 2	8.0	350.0(14:45)	11.0	3.0(17:50)	14.0	9.0(17:50)	15.0	7.0(17:50)
2/ 3	6.0	2.0(13:15)	8.0	296.0(15:05)	11.0	202.0(19:35)	10.0	342.0(15:45)
2/ 4	8.0	318.0(12:55)	10.0	292.0(14:40)	11.0	302.0(14:40)	12.0	303.0(15:45)
2/ 5	8.0	184.0(13:20)	10.0	216.0(13:00)	11.0	199.0(12:45)	11.0	206.0(12:20)
2/ 6	7.0	275.0(12:55)	9.0	290.0(13:05)	10.0	298.0(13:05)	9.0	329.0(12:25)
2/ 7	8.0	339.0(13:35)	9.0	336.0(13:35)	10.0	330.0(14:05)	11.0	332.0(14:05)
2/ 8	8.0	180.0(17:55)	11.0	173.0(17:55)	15.0	176.0(17:55)	15.0	179.0(17:55)
2/ 9	9.0	309.0(15:10)	10.0	318.0(14:45)	12.0	310.0(15:10)	12.0	328.0(14:55)
2/10	8.0	303.0(12:40)	9.0	303.0(11:50)	11.0	310.0(12:40)	11.0	313.0(13:50)
2/11	14.0	26.0(15:50)	19.0	7.0(13:50)	22.0	15.0(13:50)	24.0	9.0(13:50)
2/12	9.0	188.0(17:05)	11.0	196.0(17:05)	13.0	204.0(17:05)	14.0	207.0(17:00)
2/13	10.0	322.0(16:40)	13.0	318.0(16:35)	15.0	326.0(16:40)	16.0	327.0(16:40)
2/14	13.0	344.0(13:25)	18.0	346.0(13:25)	20.0	352.0(13:25)	20.0	350.0(13:25)
2/15	9.0	316.0(14:20)	12.0	288.0(16:30)	14.0	293.0(16:30)	14.0	290.0(16:30)
2/16	12.0	210.0(15:30)	15.0	211.0(15:30)	20.0	213.0(17:45)	24.0	217.0(17:45)
2/17	10.0	252.0(13:35)	13.0	294.0(14:00)	15.0	195.0(0:30)	20.0	205.0(0:30)
2/18	11.0	344.0(13:15)	14.0	348.0(13:15)	16.0	348.0(14:10)	17.0	344.0(14:10)
2/19	10.0	301.0(15:20)	14.0	308.0(15:20)	15.0	315.0(15:20)	16.0	316.0(15:20)
2/20	10.0	211.0(16:05)	12.0	213.0(16:05)	16.0	210.0(18:10)	21.0	213.0(18:10)
2/21	22.0	187.0(19:35)	28.0	190.0(19:35)	33.0	194.0(19:35)	38.0	199.0(19:35)
2/22	20.0	226.0(0:30)	25.0	223.0(0:30)	30.0	227.0(0:30)	33.0	234.0(0:30)
2/23	12.0	225.0(14:25)	16.0	217.0(14:45)	18.0	223.0(14:45)	19.0	230.0(14:45)
2/24	15.0	256.0(9:00)	18.0	253.0(6:15)	22.0	256.0(9:00)	23.0	260.0(9:00)
2/25	16.0	360.0(15:40)	21.0	353.0(14:50)	25.0	358.0(14:50)	26.0	360.0(14:50)
2/26	13.0	317.0(20:15)	18.0	315.0(20:15)	22.0	324.0(20:15)	27.0	319.0(20:15)
2/27	8.0	277.0(15:35)	11.0	277.0(16:00)	15.0	201.0(23:40)	19.0	214.0(23:40)
2/28	11.0	193.0(15:05)	14.0	184.0(19:15)	18.0	190.0(19:15)	20.0	204.0(6:05)

```
          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB    1 THRU 28
      (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
             TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
             PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                     RELATIVE HUMIDITY

   SITE 023
DATE       (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
----------------------------------------------------------------------------------------------
2/ 1       99.0(20:45)                                100.0(17:05)          99.0(21:35)
2/ 2      100.0( 1:15)                                100.0( 0:00)         100.0( 1:15)
2/ 3       93.0( 5:05)                                 97.0( 8:05)          91.0( 8:00)
2/ 4       84.0( 6:20)                                 89.0( 7:35)          84.0( 7:35)
2/ 5       73.0( 2:40)                                 73.0( 0:05)          68.0(23:05)
2/ 6       81.0( 7:50)                                 87.0( 7:50)          82.0( 7:50)
2/ 7       76.0( 6:50)                                 84.0( 7:35)          76.0( 7:10)
2/ 8       59.0( 2:00)                                 63.0( 2:00)          59.0( 1:05)
2/ 9       55.0( 6:40)                                 60.0( 7:40)          53.0( 8:20)
2/10       55.0(22:50)                                 59.0(23:55)          56.0(23:40)
----------------------------------------------------------------------------------------------
2/11       91.0(23:55)                                 93.0(23:50)          88.0(21:10)
2/12       94.0( 2:10)                                 97.0( 1:50)          96.0( 2:05)
2/13       75.0( 8:05)                                 77.0( 7:50)          73.0( 8:10)
2/14       97.0( 6:10)                                100.0( 4:05)          99.0( 5:00)
2/15       82.0( 1:45)                                 85.0( 2:10)          80.0( 1:25)
2/16       69.0( 6:45)                                 70.0( 7:10)          65.0( 6:40)
2/17       57.0( 5:55)                                 60.0( 6:40)          57.0( 7:20)
2/18       59.0( 4:45)                                 60.0( 2:50)          57.0( 0:55)
2/19       72.0( 7:40)                                 72.0( 8:20)          64.0( 6:05)
2/20       54.0( 5:45)                                 58.0( 7:05)          53.0( 6:25)
----------------------------------------------------------------------------------------------
2/21       45.0(23:55)                                 51.0(23:55)          43.0(23:50)
2/22      100.0( 2:30)                                100.0( 1:55)         100.0(18:55)
2/23       93.0( 5:00)                                 99.0( 0:10)          95.0( 0:00)
2/24       89.0(23:45)                                100.0(23:40)          99.0(23:50)
2/25       99.0( 2:50)                                100.0( 0:00)         100.0( 7:35)
2/26       97.0(19:15)                                100.0(14:55)          98.0(19:15)
2/27       96.0( 6:15)                                100.0( 5:25)          99.0( 8:00)
2/28       68.0( 5:40)                                 72.0(23:50)          67.0(23:25)
```

```
          TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR FEB   1 THRU 28
  (UNITS:CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
        TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;
        PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

                                   TEMPERATURE

   SITE 023
DATE     (  8-FT)              ( 30-FT)              (100-FT)              (200-FT)
------------------------------------------------------------------------------------
2/ 1      34.0(15:20)           32.0(14:50)           33.0( 4:00)           31.0( 4:00)
2/ 2      33.0(15:25)           30.0(15:25)           29.0(16:10)           27.0(15:25)
2/ 3      38.0(14:25)           35.0(14:15)           34.0(13:55)           33.0(14:40)
2/ 4      39.0(15:10)           35.0(14:45)           34.0(14:35)           32.0(14:30)
2/ 5      40.0(11:55)           38.0(14:20)           38.0(15:15)           35.0(14:40)
2/ 6      40.0(15:10)           36.0(14:35)           35.0(14:40)           33.0(15:25)
2/ 7      41.0(14:55)           40.0(15:05)           39.0(15:05)           36.0(15:00)
2/ 8      47.0(13:50)           45.0(14:20)           44.0(14:20)           42.0(14:55)
2/ 9      44.0(14:05)           42.0(15:10)           40.0(14:05)           39.0(14:45)
2/10      45.0(16:10)           42.0(15:55)           41.0(15:55)           39.0(16:00)
------------------------------------------------------------------------------------
2/11      40.0(12:20)           37.0(11:45)           36.0(12:05)           34.0(12:20)
2/12      45.0(14:20)           44.0(15:20)           43.0(16:00)           41.0(16:30)
2/13      47.0(15:30)           45.0(15:25)           43.0(14:45)           41.0(14:55)
2/14      39.0(13:40)           35.0(13:35)           34.0(13:35)           32.0(13:40)
2/15      49.0(14:40)           46.0(15:45)           45.0(15:40)           44.0(16:00)
2/16      52.0(14:30)           50.0(14:10)           49.0(14:10)           48.0(14:35)
2/17      52.0(14:30)           50.0(14:15)           48.0(13:55)           47.0(14:45)
2/18      50.0(13:45)           48.0(14:05)           46.0(12:15)           44.0(12:15)
2/19      50.0(15:15)           48.0(15:15)           47.0(15:15)           45.0(14:50)
2/20      55.0(14:20)           54.0(14:20)           52.0(14:15)           51.0(14:55)
------------------------------------------------------------------------------------
2/21      54.0(11:00)           51.0(12:25)           50.0(13:25)           48.0(14:40)
2/22      46.0( 0:00)           46.0( 0:00)           46.0( 0:00)           44.0( 0:00)
2/23      33.0(12:40)           31.0(16:15)           30.0(16:10)           28.0(15:00)
2/24      33.0(13:45)           29.0(13:40)           28.0(13:45)           28.0(14:15)
2/25      28.0(15:40)           23.0(14:25)           22.0(14:45)           21.0(14:45)
2/26      26.0(11:25)           22.0(11:50)           21.0(11:50)           20.0(12:00)
2/27      30.0(15:50)           25.0(14:45)           24.0(15:35)           23.0(15:35)
2/28      38.0(14:40)           34.0(14:40)           33.0(15:35)           32.0(15:25)
```

TABLE VI

THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEBRUARY 1 THRU 28

```
          TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEB    1-28
                    (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                 UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                        WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                   NITROGEN OXIDES[WS: WD]
                                        1-HOUR
SITE              023

 1. 2/ 3(16:15-17:15)   1.9[ 4:338]
 2. 2/ 3(18:20-19:20)   1.9[ 5:211]
 3. 2/ 3(22:25-23:25)   1.9[ 2:154]
 4. 2/ 3(23:35- 0:35)   1.9[ 2:220]
 5. 2/ 4( 9:40-10:40)   1.9[ 7:284]
------------------------------------------------------------------------------------------

                                   NITRIC OXIDE[WS: WD]
                                        1-HOUR
SITE              023

 1. 2/11( 7:15- 8:15)    .9[ 2:176]
 2. 2/21( 5:50- 6:50)    .9[ 6:172]
 3. 2/25( 8:45- 9:45)    .9[10:324]
 4. 2/ 3(18:10-19:10)    .8[ 5:213]
 5. 2/11( 2:20- 3:20)    .6[ 4:254]
------------------------------------------------------------------------------------------

                                   NITROGEN DIOXIDE[WS: WD]
                                        1-HOUR
SITE              023

 1. 2/11(12:10-13:10)   1.9[12:341]
 2. 2/13( 3:55- 4:55)   1.9[ 4:166]
 3. 2/ 3(19:10-20:10)   1.7[ 3:176]
 4. 2/ 3(20:30-21:30)   1.7[ 2:202]
 5. 2/ 3(23:35- 0:35)   1.7[ 2:220)
------------------------------------------------------------------------------------------
```

```
TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEB   1-28
          (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
       UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
              WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                        SULFUR DIOXIDE(WS: WD)
                           1-HOUR
SITE            023

 1. 2/ 4( 0:55- 1:55)  11.7[ 1:249]
 2. 2/ 3(16:25-17:25)  10.4[ 4:332]
 3. 2/ 3(21:05-22:05)  10.0[ 2:234]
 4. 2/ 3(18:15-19:15)   9.6[ 5:212]
 5. 2/ 4( 5:00- 6:00)   8.9[ 1:255]
--------------------------------------------------------------------------------------------

                        SULFUR DIOXIDE(WS: WD)
                           3-HOUR
SITE            023

 1. 2/ 3(19:50-22:50)   9.4[ 2:182]
 2. 2/ 3(23:40- 2:40)   9.3[ 1:244]
 3. 2/ 4( 3:25- 6:25)   7.8[ 1:222]
 4. 2/ 7(22:25- 1:25)   4.1[ 1:129]
 5. 2/ 7(13:40-16:40)   3.6[ 6:340]
--------------------------------------------------------------------------------------------

                        SULFUR DIOXIDE(WS: WD)
                          24-HOUR
SITE            023

 1. 2/ 3- 2/ 4(14:00)   5.9[ 3:268]
 2. 2/22- 2/23(15:00)   1.0[ 6:259]
 3. 2/ 8- 2/ 9( 1:00)   1.0[ 4:147]
 4. 2/ 6- 2/ 7(16:00)    .8[ 2:272]
 5. 2/13- 2/14(10:00)    .0[ 4:287]
--------------------------------------------------------------------------------------------
```

```
                    TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEB    1-28
                               (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                          UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                                 WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                              HYDROGEN SULFIDE(WS: WD)
                                                   1-HOUR
SITE                  023

 1. 2/ 3(12:35-13:35)   3.6[ 4: 12]
 2. 2/ 2( 3:25- 4:25)   2.2[ 5:291]
 3. 2/11(13:55-14:55)   2.2[11:348]
 4. 2/ 1(18:45-19:45)   2.1[ 3:286]
 5. 2/ 1(15:15-16:15)   2.0[ 6:298]
----------------------------------------------------------------------------------------------------

                                              TOTAL HYDROCARBONS(WS: WD)
                                                   3-HOUR(6-9AM)
SITE                  023

 1. 2/20( 6:00- 9:00)1164.5[ 2:171]
 2. 2/27( 6:00- 9:00)1132.8[ 2:253]
 3. 2/25( 6:00- 9:00)1120.4[ 8:320]
 4. 2/28( 6:00- 9:00)1117.6[ 5:190]
 5. 2/24( 6:00- 9:00)1115.1[10:262]
   PRIMARY STANDARD EXCEEDED  18 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  18 TIMES AT SITE 023
----------------------------------------------------------------------------------------------------
```

```
                                        TABLE VI. THE FIVE MAXIMUM AVERAGES FOR FEB    1-28
                                                     (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                                      UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                                               WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                                                 METHANE[WS: WD]
                                                                   3-HOUR(6-9AM)
SITE                    023

 1. 2/10( 6:00- 9:00) 893.9[ 1:217]
 2. 2/ 8( 6:00- 9:00) 864.4[ 4:121]
 3. 2/ 9( 6:00- 9:00) 849.1[ 2:320]
 4. 2/14( 6:00- 9:00) 767.0[ 2:182]
 5. 2/13( 6:00- 9:00) 764.2[ 5:137]
   PRIMARY STANDARD EXCEEDED  16 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED  16 TIMES AT SITE 023
------------------------------------------------------------------------------------------------------------------------------
```

```
                    TABLE VI. THE FIVE MAXIMUM AVERAGES FOR FEB   1-28
                         (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                   UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                          WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                              NON-METHANE HYDROCARBONS(WS: WD)
                                      3-HOUR(6-9AM)
SITE           023

 1. 2/28( 6:00- 9:00) 470.0( 5:190)
 2. 2/27( 6:00- 9:00) 464.3( 2:253)
 3. 2/25( 6:00- 9:00) 441.1( 8:320)
 4. 2/26( 6:00- 9:00) 386.9( 2:176)
 5. 2/24( 6:00- 9:00) 382.1(10:262)
   PRIMARY STANDARD EXCEEDED   8 TIMES AT SITE 023
 SECONDARY STANDARD EXCEEDED   8 TIMES AT SITE 023
--------------------------------------------------------------------------------------------------
```

```
                    TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEB   1-28
                              (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                         UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                                WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                              CARBON MONOXIDE(PS: 001)
                                                 1-HOUR
SITE                 023

 1. 2/ 5(11:15-12:15) 819.7[ 7:203]
 2. 2/18( 3:45- 4:45) 786.7[ 3:201]
 3. 2/13(13:50-14:50) 761.8[ 8:346]
 4. 2/ 7(10:40-11:40) 716.8[ 2:343]
 5. 2/17(18:00-19:00) 714.8[ 5:215]
-----------------------------------------------------------------------------------------------------------
```

```
                    TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEB    1-28
                              (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                          UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;
                                 WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                             CARBON MONOXIDE[WS: WD]
                                                8-HOUR
SITE                 023

 1. 2/19( 5:55-13:55) 569.6[ 4:360]
 2. 2/18( 2:55-10:55) 517.2[ 3:144]
 3. 2/ 7( 9:55-17:55) 484.1[ 4:339]
 4. 2/ 9(12:55-20:55) 412.8[ 5:301]
 5. 2/ 8( 6:55-14:55) 408.4[ 3:131]
----------------------------------------------------------------------------------------------------------------
```

```
              TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR FEB    1-28
                        (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)
                    UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:
                         WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

                                      OZONE[WS: WD]
                                         1-HOUR
SITE                 023

 1. 2/26(18:55-19:55)  95.7[ 6:268]
 2. 2/27(15:50-16:50)  94.8[ 9:297]
 3. 2/27(16:55-17:55)  93.0[ 5:297]
 4. 2/26(20:00-21:00)  91.7[ 8:292]
 5. 2/27(10:55-11:55)  90.7[ 2:323]
-----------------------------------------------------------------------------------------------------
```

```
                   TABLE VI. THE FIVE MAXIMUM AVERAGES FOR FEM    1-28
                  UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER

                                 PARTICULATE
                                  24-HOUR
SITE          023

        1    2/21     23.0
        2    2/ 5     17.0
        3    2/18     14.0
        4    2/17     13.0
        5    2/28     11.0
--------------------------------------------------------------------------------
```

TABLE VII
FUNCTIONAL DEPENDENCE OF RECORDED PARAMETERS UPON WIND DIRECTION

```
                         NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

        NITROGEN OXIDES(NOX)                                               C-B SHALE OIL PROJECT
                                  TRAILER NO. -  23  PERIOD( 2/ 1/77 TO  2/26/77)

                                                            WIND DIRECTION
                    N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
 CONCENTRATION
   UG/M**3
   GT    160 :                                                                                     :

 140 -   160 :                                                                                     :

 120 -   140 :                                                                                     :

 110 -   120 :                                                                                     :

 100 -   110 :                                                                                     :

  90 -   100 :                                                                                     :

  80 -    90 :                                                                                     :

  70 -    80 :                                                                                     :

  60 -    70 :                                                                                     :

  50 -    60 :                                                                                     :

  40 -    50 :                                                                                     :

  30 -    40 :                                                                                     :

  20 -    30 :                                                                                     :

  10 -    20 :                                                               1    1    3           :     5

    LT    10 :  314  197  210  171  250  306  361  375  481 1087  903  359  575  739  531  383  409 : 7651

    TOTAL    :  314  197  210  171  250  306  361  375  481 1087  903  359  576  740  534  383  409 : 7656
             ...............................................................................................

    MEAN         0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.    0.
```

```
                          NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

          NITRIC OXIDE(NO)                                                          C-B SHALE OIL PROJECT
                                   TRAILER NO. -  23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                         WIND DIRECTION
                  N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
 CONCENTRATION
   UG/M**3
   GT   160 :                                                                                  :
 140 -  160 :                                                                                  :
 120 -  140 :                                                                                  :
 110 -  120 :                                                                                  :
 100 -  110 :                                                                                  :
  90 -  100 :                                                                                  :
  80 -   90 :                                                                                  :
  70 -   80 :                                                                                  :
  60 -   70 :                                                                                  :
  50 -   60 :                                                                                  :
  40 -   50 :                                                                                  :
  30 -   40 :                                                                                  :
  20 -   30 :                                                                                  :
  10 -   20 :                                                            1    1    3           :     5
    LT   10 :  314  197  210  171  250  306  361  375  481 1087  903  359  575  739  531  383  409 :  7651
   TOTAL    :  314  197  210  171  250  306  361  375  481 1087  903  359  576  740  534  383  409 :  7656
            ...........................................................................................
     MEAN       0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.     0.
```

```
                   NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

        NITROGEN DIOXIDE(NO2)                                         C-B SHALE OIL PROJECT
                          TRAILER NO. -  23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                       WIND DIRECTION
                 N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW CALM  TOTAL
CONCENTRATION
  UG/M**3
   GT    160 :                                                                                         :
140 -    160 :                                                                                         :
120 -    140 :                                                                                         :
110 -    120 :                                                                                         :
100 -    110 :                                                                                         :
 90 -    100 :                                                                                         :
 80 -     90 :                                                                                         :
 70 -     80 :                                                                                         :
 60 -     70 :                                                                                         :
 50 -     60 :                                                                                         :
 40 -     50 :                                                                                         :
 30 -     40 :                                                                                         :
 20 -     30 :                                                                                         :
 10 -     20 :                                                                                         :
   LT     10 :  314  197  210  171  250  306  361  375  481 1087  903  359  576  740  534  383  409 : 7656
   TOTAL     :  314  197  210  171  250  306  361  375  481 1087  903  359  576  740  534  383  409 : 7656
             ...........................................................................................
    MEAN         0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.    0.
```

```
                    NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

        SULFUR DIOXIDE(SO2)                                              C-b SHALE OIL PROJECT
                               TRAILER NO. -  23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                          WIND DIRECTION
                  N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
CONCENTRATION
  UG/M**3
   GT   140 :                                                                                   :

130 -   140 :                                                                                   :

120 -   130 :                                                                                   :

110 -   120 :                                                                                   :

100 -   110 :                                                                                   :

 90 -   100 :                                                                                   :

 80 -    90 :                                                                                   :

 70 -    80 :                                                                                   :

 60 -    70 :                                                                                   :

 50 -    60 :                                                                                   :

 40 -    50 :                                                                                   :

 30 -    40 :                                                                                   :

 20 -    30 :                                                                                   :

 10 -    20 :     5    3    2         1    5    6    2         9    8    2    9    6    3   12    7 :     80

    LT   10 :   305  200  198  164  262  308  360  360  462 1004  828  354  584  699  466  371  348 :   7293

    TOTAL   :   310  203  200  164  263  313  366  362  462 1013  836  356  593  705  469  383  355 :   7373
            ...........................................................................................

    MEAN         0.   0.   0.   0.   0.   0.   0.   3.   0.   0.   0.   0.   0.   0.   0.   0.   0.     0.
```

```
                      NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

       HYDROGEN SULFIDE(H2S)                                            C-B SHALE OIL PROJECT
                               TRAILER NO. -  25  PERIOD( 2/ 1/77 TO  2/28/77)

                                                       WIND DIRECTION
                  N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
CONCENTRATION
  UG/M**3
  GT    140 :                                                                                    :
130 -   140 :                                                                                    :
120 -   130 :                                                                                    :
110 -   120 :                                                                                    :
100 -   110 :                                                                                    :
 90 -   100 :                                                                                    :
 80 -    90 :                                                                                    :
 70 -    80 :                                                                                    :
 60 -    70 :                                                                                    :
 50 -    60 :                                                                                    :
 40 -    50 :                                                                                    :
 30 -    40 :                                                                                    :
 20 -    30 :                                                                                    :
 10 -    20 :                                                                   1                :     1
   LT    10 :   307  210  214  173  269  339  387  381  483 1086  894  356  571  702  485  386  409 :  7652

   TOTAL    :   307  210  214  173  269  339  387  381  483 1086  894  356  571  702  486  386  409 :  7653
            ...........................................................................................
   MEAN          0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.    0.
```

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

TOTAL HYDROCARBONS C-B SHALE OIL PROJECT

TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	:	TOTAL
GT 4000 :																		:	
3600 - 4000 :																		:	
3400 - 3600 :																		:	
3200 - 3400 :							1		1	4	1					1		:	8
3000 - 3200 :	2						0		0	4	1		1	1		0		:	9
2800 - 3000 :	0						0		0	2	0		0	0		0		:	2
2600 - 2800 :	0	1				1	1	3	0	1	0		0	1		1	1	:	10
2400 - 2600 :	0	0				0	0	2	0	5	0		0	0	1	0	1	:	9
2200 - 2400 :	0	0	1			0	0	0	0	3	1		1	0	0	0	0	:	6
2000 - 2200 :	0	0	0			1	0	0	0	3	1		0	1	0	0	0	:	6
1800 - 2000 :	1	0	1			0	1	0	0	4	0		1	0	0	0	1	:	9
1600 - 1800 :	1	0	0			2	0	0	0	5	4	4	6	4	2	1	1	:	30
LT 1600 :	277	184	183	154	242	297	334	315	373	862	657	276	416	639	462	348	240	:	6239
TOTAL :	281	185	185	154	242	301	337	320	374	893	665	280	425	646	465	351	244	:	6328
MEAN/100	10.	10.	9.	9.	9.	10.	10.	10.	10.	10.	10.	10.	11.	11.	10.	10.	9.		10.

```
                    NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

        METHANE(CH4)                                                      C-B SHALE OIL PROJECT
                                  TRAILER NO. -  23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                            WIND DIRECTION
                   N   NNE   NE   ENE    E   ESE   SE   SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
  CONCENTRATION
    UG/M**3
     GT  2400 :                                          1                                 1               :    2

2200 -   2400 :              1                           0                                 0               :    1

2000 -   2200 :              0                           0                                 0               :    0

1800 -   2000 :              0                           0         1                       0               :    1

1600 -   1800 :              0                           0         0                       0               :    0

1400 -   1600 :         1    0          1     1          0         0                       0               :    3

1200 -   1400 :         1    0          0     0          1         0    1                  0               :    3

1000 -   1200 :    7    2    0          0     1    1     1    9    5    6    2    1    6    2    4    1 :   48

 800 -   1000 :   58   49   24   11    23    62   98    69   38   96  144   34   50  104   95   89   39 : 1083

 600 -    800 :  149   93  123  102   152   146  162   194  257  615  416  199  270  309  262  217  136 : 3804

 400 -    600 :   31    8    5   10     8     6   10     9   28   39   15   14   41  109   45   14    9 :  399

 200 -    400 :    0    0    1    0     0     0    0     0    0    2    0    0    1    2    1    1    0 :    8

     LT   200 :    0    0    0    0     0     0    0     0    0    0    0    0    0    0    2    0    0 :    2

     TOTAL    :  245  154  154  123   184   216  271   275  332  758  582  249  363  530  408  325  185 : 5354
              ...........................................................................................

      MEAN      744. 781. 770. 740. 752. 773. 771. 777. 728. 735. 762. 737. 715. 716. 738. 763. 750. 745.
```

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NON-METHANE HYDROCARBONS C-B SHALE OIL PROJECT
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

CONCENTRATION UG/M**3									WIND DIRECTION									
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
GT 3000 :																	:	
2800 - 3000 :																	:	
2600 - 2800 :																	:	
2400 - 2600 :							1			6	1			1		1	:	10
2200 - 2400 :	2						0			3	0		1	0		0	:	6
2000 - 2200 :	0					1	0	1		0	0		0	0		0	1 :	3
1800 - 2000 :	0	1				0	1	0		2	0		0	1		1	0 :	6
1600 - 1800 :	0	0				0	0	0		2	0		1	0		0	0 :	3
1400 - 1600 :	0	0				1	0	0		1	0		0	0		0	0 :	2
1200 - 1400 :	0	0				0	0	0		2	0		0	1		0	0 :	3
1000 - 1200 :	2	0	1			1	1	1		4	0	1	1	0	1	1	1 :	15
800 - 1000 :	0	0	1			1	0	0		7	3	4	11	6	5	1	3 :	42
600 - 800 :	11	5	0	1		2	4	3	6	11	5	8	22	34	17	8	2 :	139
LT 600 :	230	148	152	122	184	210	264	270	326	720	573	236	327	487	385	313	178 :	5125
TOTAL :	245	154	154	123	184	216	271	275	332	758	582	249	363	530	404	325	185 :	5354
MEAN	280.	192.	145.	153.	146.	178.	161.	159.	247.	279.	248.	283.	363.	338.	307.	202.	177.	254.

0.

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

CARBON MONOXIDE(CO) C-B SHALE OIL PROJECT

TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

CONCENTRATION UG/M**3	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
									WIND DIRECTION									
GT 4250						1			1	1						1		4
3750 - 4000		1	1			0			0	0						0		2
3500 - 3750		0	0			0			0	0						0		0
3250 - 3500	1	0	0			0			0	0						0		1
3000 - 3250	0	0	0			0			0	0						0		0
2750 - 3000	0	0	1			0			0	0						0	1	2
2500 - 2750	0	0	0			0			0	0						0	1	1
2250 - 2500	0	0	0			0			2	1				1		1	0	5
2000 - 2250	0	0	0			0			0	1				0	1	0	0	2
1750 - 2000	2	0	0			0			0	0				0	0	0	0	2
1500 - 1750	2	1	0			0			0	0				1	0	0	0	4
1250 - 1500	0	0	0			0			0	1				0	1	0	1	3
LT 1250	207	166	179	145	221	276	315	295	253	703	515	213	254	509	350	293	326	5220
TOTAL	212	168	181	145	221	277	315	295	256	707	515	213	254	511	352	295	329	5246
MEAN	321.	333.	336.	305.	291.	308.	309.	327.	329.	307.	305.	294.	289.	302.	319.	351.	298.	312.

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                      NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

      OZONE(63)                                                                  C-b SHALE OIL PROJECT
                                  TRAILER NO. -  23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                             WIND DIRECTION
                      N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW CALM  TOTAL
CONCENTRATION
  UG/M**3
  GT    240 :                                                                                         :
220 -   240 :                                                                                         :
200 -   220 :                                                                                         :
180 -   200 :                                                                                         :
160 -   180 :                                                                                         :
140 -   160 :                                                                                         :
120 -   140 :                                                                                         :
100 -   120 :                                                                                         :
 80 -   100 :    95   42   29   15   17   63   87   78  161  342  173  123  239  278  179  143   53 : 2117
 60 -    80 :   226  162  173  151  235  266  293  295  317  737  682  215  315  388  352  260  347 : 5414
 40 -    60 :     9    7   12    7   17   10    7    8    5   12   52   30   53   90   17    9   10 :  355
 20 -    40 :     0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0 :    0
   LT    20 :     0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    1 :    1
   TOTAL    :   330  211  214  173  269  339  387  381  483 1091  907  568  607  756  548  412  411 : 7887
            ...........................................................................................
    MEAN        75.  74.  72.  71.  71.  74.  75.  74.  76.  76.  73.  74.  75.  74.  75.  76.  73.  74.
```

0

TABLE VIII
DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

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                          DIURNAL VARIATION OF NITROGEN OXIDES(UG/M**3)
                            TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                HOUR
        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

  1                                                       *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  2     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    0
  3     *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    0
  4     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  5     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  6     *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    0
  7     *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
  8     *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
  9     *    *    *    *    *    *    *    *    *    *    *    *         *    *    *    *    *    *    *    *    *    *    *    0
 10     *    *    *    *    *    *    *    *    *    *    *    *    *:    :        *    *    *    *    *    *    *    *    *    0
 11     *    *    *    *    *    *    *    *    *    *     :   *:   *    *    *    *    *    *    *    *    *    *    *    *    0
 12     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 13     *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 14     *    *    *    *    *    *    *    *    *    *:   *                             *    *    *    *    *    *    *    *    0
 15     *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    0
 16     *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    0
 17     *    *    *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *:   *    *    *    *    *    *    *    0
 18     *    *    *    *    *    *    *    *    *    *    *    *    *:    :    :   *    *    *    *    *    *    *    *    *    0
 19     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 20     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 21     *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 22     *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
 23     *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    0
 24     *    *    *    *    *    *    *    *    *    *    *:   *:    :    :    :   *:   *    *    *    *    *    *    *    *    0
 25     *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 26     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 27     *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
 28     *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
MEAN    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0

                  TOTAL NUMBER OF OBSERVATIONS =  7640     MEAN  =       0.

          * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

          : INDICATES CALIBRATION DURING THE HOUR
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                   DIURNAL VARIATION OF NITRIC OXIDE(UG/M**3)
                 TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                      HOUR
       1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24 MEAN
DAY

   1                                                  *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
   2   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    0
   3   *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    0
   4   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
   5   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
   6   *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    0
   7   *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
   8   *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
   9   *    *    *    *    *    *    *    *    *    *    *    *         *    *    *    *    *    *    *    *    *    *    *    0
  10   *    *    *    *    *    *    *    *    *    *    *    *    *:    :        *    *    *    *    *    *    *    *    *    0
  11   *    *    *    *    *    *    *    *    *    *     :   *:   *    *    *    *    *    *    *    *    *    *    *    *    0
  12   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  13   *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  14   *    *    *    *    *    *    *    *    *    *:   *                             *    *    *    *    *    *    *    *    0
  15   *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    0
  16   *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    0
  17   *    *    *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *:   *    *    *    *    *    *    *    0
  18   *    *    *    *    *    *    *    *    *    *    *    *    *:    :    :   *    *    *    *    *    *    *    *    *    0
  19   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  20   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  21   *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  22   *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
  23   *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    0
  24   *    *    *    *    *    *    *    *    *    *    *:   *:    :    :    :   *:   *    *    *    *    *    *    *    *    0
  25   *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  26   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  27   *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    0
  28   *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    0
MEAN   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0

                  TOTAL NUMBER OF OBSERVATIONS =  7640     MEAN  =        0.

            * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

            : INDICATES CALIBRATION DURING THE HOUR
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CORPORATION

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                    DIURNAL VARIATION OF NITROGEN DIOXIDE(UG/M**3)
                     TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                          HOUR
      1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

  1                                           *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
  2   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *    0
  3   *   *   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *    0
  4   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
  5   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
  6   *   *   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *   *   *   *    0
  7   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
  8   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
  9   *   *   *   *   *   *   *   *   *   *   *   *       *   *   *   *   *   *   *   *   *   *   *    0
 10   *   *   *   *   *   *   *   *   *   *   *   *   *:   :      *   *   *   *   *   *   *   *   *    0
 11   *   *   *   *   *   *   *   *   *   *    :  *:  *   *   *   *   *   *   *   *   *   *   *   *    0
 12   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 13   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 14   *   *   *   *   *   *   *   *   *   *:  *                       *   *   *   *   *   *   *   *    0
 15   *   *   *   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *    0
 16   *   *   *   *   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *   *    0
 17   *   *   *   *   *   *   *   *   *   *   *:   :  *   *   *   *   *:  *   *   *   *   *   *   *    0
 18   *   *   *   *   *   *   *   *   *   *   *   *   *:   :   :  *   *   *   *   *   *   *   *   *    0
 19   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 20   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 21   *   *   *   *   *   *   *   *   *:   :  *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 22   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
 23   *   *   *   *   *   *   *   *   *   *   *   *   *   *:  *:  *   *   *   *   *   *   *   *   *    0
 24   *   *   *   *   *   *   *   *   *   *   *:  *:   :   :   :  *:  *   *   *   *   *   *   *   *    0
 25   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 26   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 27   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *    0
 28   *   *   *   *   *   *   *   *   *   *   *:  *   *   *   *   *   *   *   *   *   *   *   *   *    0
MEAN  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0

                TOTAL NUMBER OF OBSERVATIONS =  7640     MEAN  =        0.

         * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

         : INDICATES CALIBRATION DURING THE HOUR
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                    DIURNAL VARIATION OF SULFUR DIOXIDE(UG/M**3)
                      TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                    HOUR
         1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16    17    18    19    20    21    22    23    24   MEAN
DAY

  1      *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
  2      *     *     *     *     *     *     *     *     *     *     *     *     *     *     *:    *:    *     *     *     *     *     *     *     *      0
  3      *     *     *     *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *      3
  4      *     *     *     *     *     *     *     *     *     *     *     *                                                                               5
  5                        *     *     *     *     *     *     *     *     *     *     *                                                                   1
  6                                                                       :    *:    *     *     *     *     *     *     *     *     *     *     *      0
  7      *     *     *     *     *     *     *     *     *     *:     :    *     *     *     *     *     *     *     *     *     *     *     *     *      1
  8      *     *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *      1
  9      *     *     *     *     *     *     *     *     *     *     *     *           *     *     *     *     *     *     *     *     *     *     *      0
 10      *     *     *     *     *     *     *     *     *     *     *     *     *:     :          *     *     *     *     *     *     *     *     *      0
 11      *     *     *     *     *     *     *     *     *     *      :    *:    *     *           *     *     *     *     *     *     *     *     *      0
 12      *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 13      *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 14      *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 15      *     *     *     *     *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *      0
 16      *     *     *     *     *     *     *     *     *     *     *     *     *     *:    *:    *     *     *     *     *     *     *     *     *      0
 17      *     *     *     *     *     *     *     *     *     *     *:     :    *:    *     *     *     *     *     *     *     *     *     *     *      0
 18      *     *     *     *     *     *     *     *     *     *     *     *     *:     :    *     *     *     *     *     *     *     *     *     *      0
 19      *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 20      *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 21      *     *     *     *     *     *     *     *     *:     :    *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 22      *     *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *      0
 23      *     *     *     *     *     *     *     *     *     *     *     *     *     *:    *:    *     *     *     *     *     *     *     *     *      0
 24      *     *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *      0
 25      *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 26      *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 27      *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *     *      0
 28      *     *     *     *     *     *     *     *     *     *     *:    *     *     *     *     *     *     *     *     *     *     *     *     *      0
 MEAN    0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0

                    TOTAL NUMBER OF OBSERVATIONS =   7354     MEAN  =       0.

           * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

           : INDICATES CALIBRATION DURING THE HOUR
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                         DIURNAL VARIATION OF HYDROGEN SULFIDE(UG/M**3)
                            TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                HOUR
         1    2    3    4    5    6    7    8    9    10   11   12   13   14   15   16   17   18   19   20   21   22   23   24  MEAN
DAY

  1      *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
  2      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *      0
  3      *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *      0
  4      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
  5      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
  6      *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *    *    *      0
  7      *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
  8      *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *      0
  9      *    *    *    *    *    *    *    *    *    *    *    *         *    *    *    *    *    *    *    *    *    *    *      0
 10      *    *    *    *    *    *    *    *    *    *    *    *    *:    :        *    *    *    *    *    *    *    *    *      0
 11      *    *    *    *    *    *    *    *    *    *     :   *:   *    *    *    *    *    *    *    *    *    *    *    *      0
 12      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 13      *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 14      *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 15      *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *      0
 16      *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *      0
 17      *    *    *    *    *    *    *    *    *    *    *:    :   *:   *    *    *    *    *    *    *    *    *    *    *      0
 18      *    *    *    *    *    *    *    *    *    *    *    *    *:    :   *    *    *    *    *    *    *    *    *    *      0
 19      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 20      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 21      *    *    *    *    *    *    *    *    *:    :   *    *    *:   *:   *    *    *    *    *    *    *    *    *    *      0
 22      *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *      0
 23      *    *    *    *    *    *    *    *    *    *    *    *    *    *:   *:   *    *    *    *    *    *    *    *    *      0
 24      *    *    *    *    *    *    *    *    *    *    *:   *    *    *                                                        0
 25                                                   :   *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 26      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 27      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *      0
 28      *    *    *    *    *    *    *    *    *    *    *:   *    *    *    *    *    *    *    *    *    *    *    *    *      0
MEAN     0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0

                      TOTAL NUMBER OF OBSERVATIONS =   7647     MEAN  =        0.

              * DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

              : INDICATES CALIBRATION DURING THE HOUR
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                 DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M**3 X 10**-1)
                      TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

   1     107 107 107 106 107 107 107 106 107 108 106 107 107 101 107  90 106 109 108 104 108 114 113 113   107
   2     111 111 111 110 115 112  99  89     102 110 114 112  97  99  93 108  92  87  78                   104
   3                                         113 114 109 119 107 108 111 109 106 107 107 105 108 109 108   109
   4     108 110 110 109 109 112 101 112  94  83  99 123 125 120 111 114 112 111 109 111 106               109
   5                                 105 112 111 111 121 121 118 116 119 113 107 105 100      79           111
   6                                     103 120 129 125 117 118 121 118 117 109 109                       117
   7      56                                     :   :117 106 109 104  96 113 111                           102
   8      86  87  87  86  87  87  86  86  96  90  98 108 112 110 110 107 105 109  99 104 100  88  85  85    96
   9      85  84  84  84  84  84  85  84  85  84  87  98     115 114 112 105 104 103  95  89  86  87  88    92
  10      90  92  93  91  90  90  90  89  90  88  91  95  91:   :   : 96                                    91
  11                                                 :   :   :   :109:   : 82  81  81  80  82  82  80  80    83
  12      81  81  81  80  81  81  80  79  60  81  83  85  85  85  84  85  85  84  82  81  81  80  81  93    82
  13      81  81  80  80  80  80  80  80  80  81: 82  83  85  85  86  85  84  82  81  80  60  60  81  85    82
  14      84  86  83  82  81  81  80  80  81  75  81  80  82  84  83  84  82  81  80  77  75  74  76  75    80
  15      75  76  76  73  73  75  76  76  77  79  81  83  83  86  86  85  83  80  83  80  60  81  80  78    79
  16      79  82  81  78  79  98  78  77  81  87  99  84  86  81  78  77  77  77  84  85  81  79  79  83    82
  17      78 138 181 175 178  60  81  80  79 101 102:   :183 159 105 126  96 100 128  95  94  93 114  91   118
  18      91  90  90 187 130 125 133  84  92  91  98  95 101 119 104  99  96  95 132  92  99  94  93  97   105
  19     105  99  99  99 101 100  96  97  97  97 105 106 107 109 106  98  89  88  86  62  84  79  86  86    96
  20     103  83  92  94  92 117 150  96 102 102 198 113 105 102 110 120 103  99  93  95  97  96  97  97   103
  21      97  96  98  92  94  82  91 100 104:   :112 185     :   :                                       105
  22                                                 :               :   :
  23                                                             :   :   :112:111 112 110 111 109 107 108   110
  24     112 113 110 110 111 114 112 110 112 115 112 114 115 131 114 113 112 115 122 116 126 124 113 114   115
  25     111 110 109 110 109 110 111 112 113     114 115 115 113 111 114 113 113 113 120 113 111 115       112
  26     110 109 108 107 108 109 109 109 111 113 117 115 114 112 112 111 111 111 111 111 112 111 111 111   111
  27     111 111 112 115 113 113 113 112 114 120 126 124 115 115 117 117 116 113 112 112 112 112 111 111   115
  28     110 110 111 111 111 111 110 111 113 116 113 113 114 115 115 113 113 110 111 110 109 109 108 107   111
 MEAN     94  98 100 104 102  98  98  94  96  99 103 109 109 108 107 103 102 100 102  97  97  95  96  95

                        TOTAL NUMBER OF OBSERVATIONS =  6259     MEAN  =     101.

                : INDICATES CALIBRAITON DURING THE HOUR
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DIURNAL VARIATION OF METHANE(UG/M**3 X 10**-1)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1																									
2	54	54	53	53	53	54	53	52		52	52	51	51	50	49	48	47	48	49	53					51
3													87	80	79	80	73	78	77	74	74	72	75	72	76
4	71	69	70	69	67	70	67	65	64	64	64	66	68	69	70	82	85	87	87	83	83				72
5								70	69	69	70	69	70	68	67	67	64	65	64	64		59			67
6																									
7	56									:	:	89	87	87	87	87	88	87							83
8	86	87	87	86	87	87	86	86	86	86	86	86	86	86	86	85	85	85	85	85	85	85	85	85	86
9	85	84	84	84	84	84	85	84	85	84	85	90		86	86	85	86	85	86	88	89	86	87	88	86
10	90	92	93	91	90	90	90	89	89	88	91	95	91:	:	:										91
11											:	:	:	:	84:	:	76	76	76	76	77	78	76	76	77
12	76	76	76	75	75	76	76	75	75	76	76	76	76	76	76	76	76	76	76	76	76	76	76	88	76
13	76	76	76	76	75	76	76	76	76	76:	76	77	76	76	76	76	76	75	75	75	76	76	77	82	76
14	81	83	79	78	76	77	76	76	76	69	77	77	76	77	78	78	78	78	76	73	72	72	72	72	76
15	73	73	73	73	73	74	74	73	73	74	74	74	74	74	73	73	72	71	72	73	73	73	73	72	73
16	72	72	73	73	73	71	73	71	73	73	72	73	75	74	73	74	74	73	74	73	73	72	72	72	73
17	72	70	69	69	69	74	74	74	74	73	72:	:	75	76	76	76	76	76	76	76	76	76	87	75	74
18	75	75	75	95	75	75	75	76	76	76	76	77	77	79	77	79	78	78	79	78	78	78	78	78	78
19	78	78	78	78	80	81	77	76	74	72	73	73	73	75	61	65									75
20																									
21									:	:			:	:											
22											:					:	:								
23														:	:	:	75:	74	81	79	75	73	70	71	74
24	70	71	69	67	70	73	74	73	73	70	72	70	70	63	69	71	75	73	74	71	86	82	71	67	72
25	71	72	66	61	74	69	66	62	75		74	71	68	72	65	74	72	76	69	80	75	67	85		71
26	74	71	64	67	64	85	78	69	67	75	73	68	76	69	70	64	67	65	57	68	62	78	72	69	70
27	67	74	70	73	72	68	70	67	62	85	79	74	69	70	67	64	57	64	72	72	70	69	64	65	69
28	58	70	66	67	65	64	67	58	69	70	67	69	66	65	60	59	60	71	76	65	72	63	59	69	66
MEAN	73	75	74	74	74	75	74	73	74	74	74	75	74	73	73	73	73	75	74	75	77	74	75	75	

TOTAL NUMBER OF OBSERVATIONS = 5280 MEAN = 75.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NON-METHANE HYDROCARBONS(UG/M**3 X 10**-1)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1																									
2	57	57	57	58	62	58	45	36		50	58	62	60	47	50	45	61	44	38	25					52
3													32	26	29	31	35	28	30	34	31	36	36	36	32
4	38	41	40	41	42	42	34	47	31	19	35	56	57	51	41	32	27	24	22	28	22				36
5								34	43	41	41	51	50	49	49	52	49	43	41	36		19			44
6																									
7	0									:	:	28	19	22	17	9	25	24							18
8	0	0	0	0	0	0	0	0	10	4	12	22	26	25	25	22	20	24	13	19	15	5	0	0	10
9	0	0	0	0	0	0	0	0	0	0	2	9		29	28	20	19	19	17	6	0	0	0	0	6
10	0	0	0	0	0	0	0	0	1	0	0	0	0:	:	:										0
11											:	:	:	:	25:	:	6	5	5	5	5	5	5	5	7
12	5	5	5	5	5	5	4	4	5	6	7	8	9	9	8	9	9	7	6	5	5	4	5	5	6
13	5	5	5	4	5	5	4	4	4	5:	6	6	8	10	9	9	9	6	5	4	4	5	4	3	6
14	3	3	4	3	4	4	4	4	5	6	4	4	6	6	5	6	5	4	4	4	2	2	4	3	4
15	3	3	3	0	0	2	2	2	4	6	7	9	9	12	13	12	11	9	11	7	7	8	8	6	6
16	7	10	8	5	6	27	5	6	8	14	26	10	12	8	5	3	4	4	10	12	8	6	7	11	9
17	6	68	111	106	109	7	7	5	6	28	30:	:	109	83	89	56	20	23	52	19	18	17	28	15	44
18	16	15	14	92	55	50	58	9	17	15	21	18	24	40	27	19	18	17	54	13	21	16	15	19	28
19	20	21	21	21	20	19	19	21	22	25	32	33	34	33	46	33									27
20																									
21									:	:			:	:											
22											:					:	:								
23														:	:	:	38:	37	31	51	56	56	57	37	35
24	41	42	40	43	41	41	38	37	39	45	40	44	45	68	45	43	39	42	48	45	40	42	42	47	43
25	40	39	44	49	34	41	44	49	38		40	42	45	41	45	39	41	37	43	39	38	44	30		41
26	36	58	43	40	43	23	31	40	43	38	44	47	38	43	42	47	44	46	54	43	30	53	39	42	41
27	44	37	42	41	41	44	42	45	51	39	47	49	46	45	50	53	59	50	41	40	42	14	47	46	45
28	51	40	46	44	45	46	44	52	44	45	45	44	48	59	54	50	53	39	35	45	56	46	49	37	46
MEAN	19	23	27	31	28	23	21	20	20	22	26	28	34	35	34	30	28	25	28	23	20	20	21	19	

TOTAL NUMBER OF OBSERVATIONS = 5284 MEAN = 26.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF CARBON MONOXIDE(UG/M**3 X 10**-1)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	26	27	27	28	28	26	27	26	27	28	23	23	23	23	25	25	24	24	24	23	24	24	24	25	25
2	24	25	25	25	26	26	27	27	29	30	30	29	28	30	28	26	23	24	26	27	26	25	26	26	26
3	26	25	25	25	27	26	26	28	58	29	29	63	28	29	27	21	13	14	12	20	12	11	13	12	25
4	11	12	11	12	12	12	11	11	12	12	13	14	26	31	27	56	29	29	28	29	29	29	30	31	22
5	31	31	32	31	32	32	33	32	33	34	34	81	36	34	33	34	34	33	33	33	32	31	32	32	35
6	32	31	32	31	31	15	15	14	15	15	16	29	32	31	30	30	30	30	29	28	28	27	26	26	26
7	14	28	27	27	28	25	28	27		:	:	41	41	40	40	39	40	40	40	38	38	37	38	38	34
8	39	36	20	39	39	38	19	41	40	40	39	39	42	44	39	41	40	39	39	39	39	38	37	43	38
9	38	36	38	18	55	37	38	37	39	39	39	39		64	41	40	40	40	38	38	37	36	37	38	38
10	38	39	39	39	38	37	39	36	40	40	40	41	41:	:	:	110									43
11											:	:	45	44	:	:	32	31	28	30	29	28	29	29	32
12	30	29	30	28	29	29	29	29	30	30	30	30	28	30	29	29	32	31	30	28	29	28	29	14	29
13	28	29	14	14	15	14	14	14	25	27:	29	29	30	27	76	27	26	27	26	26	25	24	26	55	27
14	26	28	26	26	29	29	29	28	28	69	20	19	20	11	12	23	21	20	19	19	19	20	19	21	24
15	19	20	19	20	21	22	22	23	22	75	25	23	23	25	23	23	23	23	23	23	23	23	24	22	24
16	22	21	22	21	25	25	25	24	25	25	25	26	24	24	26	25	26	29	26	26	24	25	25	25	25
17	26	27	24	24	24	25	26	28	28	28	25:	:	17	19	18	31	36	39	71	36	38	40	43	48	31
18	46	48	47	61	62	47	46	47	49	48	51	51	51	50	52	49	45	47	47	48	52	48	50	56	50
19	56	52	53	53	53	55	56	56	60	56	54	56	56	59	55	52	30								54
20					12	35	14	14	15	14	17	15	16	18	18	17	16	18	14	19	15	15	15	14	17
21									:	:			:	:											
22											:					:	:								
23														:	:	:	:								
24																									
25																									
26																									
27																									
28																									
MEAN	30	30	28	29	30	29	28	29	32	34	30	36	32	33	33	36	29	30	31	29	29	28	29	31	

TOTAL NUMBER OF OBSERVATIONS = 5234 MEAN = 31.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF OZONE(UG/M**3)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	69	70	72	73	71	71	72	74	69	64:	69	63	72	74	76	71	67	65	64	62	63	50	49	48	67
2	54	49	49	50	48	47	47	47	55	60	61	62	64	66	68:	71:	75	73	70	65	65	62	61	62	60
3	64	65	67	69	66	65	70	67	61	66	69	75	74:	76	81	83	80	77	70	72	75	75	76	77	72
4	78	77	76	77	76	74	68	73	71	71	76	78	79	77	80	80	75	70	63	61	63	65	65	65	72
5	67	68	68	73	76	76	77	80	77	73	81	85	84	85	88	88	87	82	82	79	74	74	76	74	78
6	76	76	74	75	72	72	74	72	67	64	76	80:	77:	78	80	82	84	82	78	76	76	77	77	73	76
7	75	73	70	71	72	71	70	69	64	68:	77	83	67	86	85	84	83	82	75	75	75	78	80	81	76
8	80	80	83	82	82	80	80	78	77	79	82:	85	87	87	88	88	86	82	78	77	78	77	76	77	81
9	77	79	80	78	78	77	74	74	73	75	74	77		79	79	75	78	77	74	74	72	70	72	74	76
10	74	73	74	73	71	70	69	68	65	66	68	69	74:	:		79	78	80	78	79	77	75	72	74	73
11	74	74	71	74	74	74	71	74	67	74	:	75:	75	73	74	74	73	71	71	62	63	67	66	60	71
12	62	59	64	64	58	58	65	62	60	60	65	75	78	77	75	76	76	75	73	69	69	72	69	68	68
13	68	70	70	70	71	66	67	64	64	59:	63	72	74	75	75	78	74	71	70	68	67	66	64	65	69
14	61	59	58	56	59	60	62	59	58	63:	64	71	72	76	75	77	76	75	73	72	75	72	72	74	68
15	72	70	71	75	77	68	68	74	72	77	81	80	77	77:	77	76	75	75	74	77	74	76	77	70	74
16	72	71	71	71	75	76	72	76	68	62	74	80	79	80:	72:	73	74	74	72	76	70	70	71	70	73
17	70	70	68	68	68	67	66	66	64	64	68:	:	72	74	75	77	76	74	69	70	74	77	75	77	71
18	79	75	78	76	74	74	77	75	71	70	79	82	82:	:	79	76	80	79	74	70	70	67	69	70	75
19	70	71	66	65	60	63	63	63	60	67	77	78	79	78	78	82	81	78	76	70	74	76	77	78	72
20	78	79	79	81	81	79	80	78	71	72	78	87	86	83	83	83	82	81	78	76	75	74	75	76	79
21	76	76	76	76	76	75	78	75	73:	:	73	74	72	70	70	69	71	70	69	67	65	65	64	62	71
22	59	50	52	58	61	64	66	68	68	76	75:	80	63	83	83	62	81	80	78	79	75	75	74	75	72
23	74	74	74	75	71	72	73	74	76	71	81	82	83	82:	81:	81	83	82	80	77	79	77	75	76	77
24	78	77	78	79	82	81	84	84	85	96	86:	87	87	80	83	82	79	77	72	70	66	61	59	62	78
25	62	64	63	66	67	70	70	69	65:	59	62	68	79	81	82	81	82	78	74	74	69	71	68	73	71
26	72	60	67	61	72	75	73	69	75	82	82	81	82	81	79	80	82	78	77	96	92	89	87	90	79
27	87	86	80	79	79	81	79	80	83	86	86	90	90	90	91	93	95	93	86	83	62	83	84	86	86
28	89	88	87	86	86	86	85	84	81	88	86:	86	86	85	84	84	84	80	78	79	77	78	73	75	83
MEAN	72	71	71	71	71	71	71	71	69	71	74	78	79	79	79	80	79	77	74	73	73	72	71	72	

TOTAL NUMBER OF OBSERVATIONS = 7879 MEAN = 74.

: INDICATES CALIBRATION DURING THE HOUR

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                         HOURLY TOTAL PRECIPITATION(HUNDREDTHS OF INCHES)
                          TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                              HOUR
      1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 TOTAL
DAY

  1   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  2   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  3   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  4   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  5   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  6   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  7   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  8   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
  9   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 10   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 11   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 12   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 13   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 14   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 15   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 16   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 17   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 18   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 19   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 20   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 21   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 22   0  0  2  0  0  0  0  0  0  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0    3
 23   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 24   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 25   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 26   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0  0  0    1
 27   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
 28   0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0    0
TOTAL  0  0  2  0  0  0  0  0  0  0  1  0  0  0  0  0  0  0  0  1  0  0  0  0

               TOTAL NUMBER OF OBSERVATIONS =  8009    TOTAL =      12.

         : INDICATES CALIBRATION DURING THE HOUR
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CORPORATION

DIURNAL VARIATION OF WIND SPEED AT 8 FEET(MPH)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	2	2	1	2	2	2	1	1	1	1	3	1	1	2	4	5	5	3	1	0	0	0	0	2
2	2	3	4	3	3	3	1	1	3	4	3	2	2	4	6	5	4	4	4	2	1	2	4	3	3
3	1	1	0	0	1	0	0	1	0	1	1	2	4	3	3	5	3	2	3	3	1	1	1	1	2
4	2	1	1	0	1	1	1	0	0	1	3	4	4	5	6	6	5	3	2	2	1	0	0	1	2
5	1	0	1	0	1	1	0	1	1	0	3	5	6	6	3	2	3	2	1	1	2	1	0	0	2
6	0	1	0	1	0	1	0	0	0	1	4	4	4	5	4	5	4	1	1	2	1	0	1	0	2
7	1	0	1	0	0	0	0	0	0	1	1	2	3	4	5	4	3	1	1	2	1	1	1	0	1
8	0	2	3	2	1	2	4	3	2	2	1	2	3	2	3	4	4	5	3	2	3	3	3	2	2
9	2	2	3	2	0	1	2	1	0	0	2	4		5	6	6	5	4	1	1	1	2	2	1	2
10	1	1	1	1	0	0	1	0	0	2	1	4	5	6		4	3	3	1	0	1	1	2	1	2
11	1	1	2	2	2	1	2	2	1	2	1	6	7	10	8	9	6	3	1	2	1	0	0	1	3
12	1	1	0	1	1	1	1	0	1	1	2	4	3	4	2	2	5	6	3	1	1	1	2	2	2
13	2	2	2	2	3	2	3	3	1	1	1	2	1	4	5	6	6	3	2	1	0	0	1	1	2
14	2	2	3	3	3	1	1	0	1	1	1	5	8	10	8	8	7	2	1	1	1	1	0	1	3
15	0	0	1	1	1	1	1	1	1	3	2	3	5	4	6	5	6	3	2	3	1	0	1	2	2
16	1	0	1	1	1	1	2	1	0	1	1	2	1	1	7	9	9	8	8	8	5	3	1	3	3
17	5	3	1	0	1	1	1	1	1	1	2	5	6	6	8	8	7	3	3	3	1	1	2	2	3
18	0	2	3	1	2	2	1	1	0	2	3	5	3	5	7	6	8	6	2	2	1	2	1	0	3
19	1	1	1	1	2	2	1	1	0	2	3	5	5	4	5	7	6	3	1	3	3	0	0	1	2
20	0	0	1	0	1	1	1	1	1	1	2	4	3	4	4	5	6	7	6	3	1	1	2	2	3
21	2	2	1	3	2	4	3	2	2	2	7	11	10	9	10	11	12	7	6	14	19	15	7	5	7
22	14	11	7	5	4	1	1	2	3	3	2	3	4	3	7	[illegible]	8	4	4	6	6	7	7	5	5
23	4	4	2	1	2	2	1	0	0	2	3	3	4	6	9	9	8	8	5	3	7	4	1	5	4
24	8	7	6	6	8	7	10	6	7	10	8	6	8	9	9	9	8	3	0	1	1	0	1	1	6
25	2	4	3	4	5	5	5	6	6	7	8	7	9	11	11	12	10	6	5	1	1	1	1	0	5
26	1	1	2	0	0	0	1	1	1	6	8	7	4	5	4	2	1	1	3	4	5	1	1	2	3
27	2	2	0	1	3	3	2	1	0	1	2	1	3	3	3	5	6	2	1	2	1	3	3	4	2
28	5	4	1	2	3	3	4	2	1	4	4	6	6	5	7	8	7	6	5	8	4	2	1	2	4
MEAN	2	2	2	2	2	2	2	1	1	2	3	4	5	5	6	6	6	4	3	3	3	2	2	2	

TOTAL NUMBER OF OBSERVATIONS = 6009 MEAN = 3.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 30 FEET(MPH)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	3	3	2	3	4	4	2	2	2	1	4	2	2	3	5	7	7	5	2	1	1	1	1	3
2	3	5	5	5	5	5	3	2	4	6	4	3	3	5	7	7	6	7	7	5	3	4	6	5	5
3	3	4	0	1	2	0	0	2	0	1	2	3	5	4	4	6	5	3	5	4	1	2	2	1	2
4	2	1	1	1	1	1	1	1	1	1	5	4	6	7	7	8	7	6	3	5	3	0	1	2	3
5	2	0	2	0	2	4	0	2	2	1	4	7	7	8	5	3	5	4	1	2	3	2	1	1	3
6	1	1	0	1	1	2	1	0	0	1	5	5	6	7	6	6	6	4	1	2	3	0	0	0	2
7	0	0	1	1	0	0	1	0	1	2	2	2	3	6	7	6	5	3	1	3	2	2	2	0	2
8	1	2	4	3	2	5	5	4	3	3	2	2	4	3	4	5	6	6	6	3	5	5	4	4	4
9	4	3	4	3	1	3	4	2	0	0	3	5		6	8	8	7	7	2	1	3	2	3	2	3
10	2	1	2	2	2	1	1	1	0	3	2	5	7	7		6	5	5	4	0	3	2	4	1	3
11	1	2	3	3	2	2	3	3	2	2	1	8	10	13	11	12	9	5	2	2	1	1	1	2	4
12	2	1	1	2	3	1	2	1	1	3	3	4	4	5	3	3	6	9	5	2	3	2	4	5	3
13	4	4	4	3	4	4	6	5	4	2	2	3	2	5	8	7	9	6	3	2	1	1	2	4	4
14	6	5	6	4	5	2	1	2	2	2	2	6	11	13	11	16	10	4	4	5	3	2	0	1	5
15	1	1	1	1	1	2	3	4	4	5	3	4	7	6	8	7	4	6	4	5	3	0	1	4	4
16	1	0	1	2	2	1	3	1	0	1	2	2	2	2	9	12	12	11	11	11	9	6	3	5	5
17	8	5	3	0	2	2	2	2	2	2	4	7	8	8	10	11	9	5	5	5	2	2	4	4	5
18	2	3	4	4	4	3	1	2	1	3	4	6	4	7	10	9	10	9	5	5	4	3	1	1	4
19	2	2	2	2	3	2	2	2	1	3	4	6	6	5	7	9	8	6	3	4	5	1	0	1	4
20	1	0	1	0	1	1	2	1	2	2	3	6	4	5	6	7	10	10	9	6	3	2	2	4	4
21	3	3	3	6	4	7	5	3	3	3	10	14	13	12	13	14	16	16	8	23	24	20	10	7	10
22	15	15	10	8	6	2	3	4	5	5	3	5	5	5	9	10	11	7	6	6	8	10	10	8	8
23	7	7	4	2	4	4	2	1	1	2	4	4	5	9	12	12	11	10	7	6	10	6	3	8	6
24	12	9	9	8	11	10	13	9	9	14	11	9	11	12	12	11	12	7	2	2	2	1	3	3	8
25	4	5	5	6	7	7	8	8	9	10	11	10	13	16	16	17	14	9	8	2	2	2	3	1	8
26	2	2	4	2	0	0	2	2	3	6	11	10	10	8	5	5	2	2	5	6	8	3	3	4	4
27	3	5	2	3	5	4	4	2	1	2	3	2	5	4	4	7	9	5	2	4	2	5	5	7	4
28	8	7	2	4	6	6	7	5	2	5	6	8	8	7	10	10	9	9	8	11	7	4	4	4	7
MEAN	4	4	3	3	3	3	3	3	2	3	4	6	6	7	8	8	8	7	5	5	4	3	3	3	

TOTAL NUMBER OF OBSERVATIONS = 6009   MEAN = 5.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 100 FEET(MPH)
TRAILER NO. = 25 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	4	4	3	5	4	4	2	3	2	2	5	2	3	3	5	8	8	6	3	1	2	1	1	4
2	4	6	7	7	6	6	5	3	5	6	5	3	3	5	8	8	7	8	10	7	4	4	6	5	6
3	3	3	0	0	2	0	0	1	0	2	2	3	5	4	5	7	6	4	4	8	3	2	3	1	3
4	1	1	2	0	1	2	2	0	1	1	4	4	6	8	8	9	8	8	4	4	3	0	0	1	3
5	1	0	2	0	2	5	1	2	4	2	4	7	9	8	6	4	6	6	1	2	3	1	1	1	3
6	0	1	0	0	0	1	1	0	0	1	5	5	6	7	6	7	7	6	3	1	2	1	0	0	3
7	0	0	1	2	0	0	1	1	1	2	2	3	4	6	7	6	5	3	2	1	2	2	1	0	2
8	1	2	5	4	2	6	7	6	5	3	3	3	4	3	4	6	6	10	8	3	4	6	6	5	5
9	6	4	6	2	1	2	4	2	0	0	3	6		8	9	9	8	9	6	0	1	2	2	2	4
10	1	1	1	2	2	2	2	1	0	3	2	6	8	:8		7	6	7	7	0	1	1	2	1	3
11	1	1	3	2	1	2	2	3	3	2	1	9	11	15	13	13	10	7	3	3	1	1	1	2	4
12	1	1	1	4	2	1	3	2	1	4	4	5	5	6	4	3	7	10	8	2	3	2	4	5	4
13	5	4	4	2	4	5	7	6	6	2	2	3	2	6	9	8	10	8	4	2	3	2	4	6	5
14	10	7	8	5	6	3	1	2	2	2	2	7	13	15	12	11	12	6	6	7	4	3	0	2	6
15	2	1	1	0	1	3	5	7	8	6	3	4	7	7	9	8	9	7	6	8	5	1	1	2	5
16	1	1	1	3	3	0	1	1	1	1	2	2	2	2	10	13	13	15	16	16	13	9	6	6	6
17	13	10	8	3	5	2	1	1	2	1	4	8	9	9	11	12	11	6	8	8	2	3	6	7	6
18	4	3	5	5	3	3	1	2	2	3	4	7	4	8	11	9	12	11	7	6	5	1	2	0	5
19	3	2	1	0	3	1	1	1	1	4	4	7	7	5	7	11	9	8	5	5	0	1	1	1	4
20	1	0	1	0	1	1	1	1	3	1	3	6	5	5	7	6	12	13	14	10	5	5	2	3	4
21	3	5	4	10	7	11	8	4	3	3	11	16	14	14	16	17	19	12	11	27	29	23	13	9	12
22	22	19	12	10	8	3	4	6	7	6	3	6	6	6	12	12	13	8	7	9	10	11	12	9	9
23	8	8	5	4	6	6	3	1	1	2	5	4	6	10	13	14	12	13	9	8	12	8	5	12	7
24	15	12	11	11	13	11	15	11	11	16	13	10	11	13	13	15	13	8	3	2	3	3	4	4	10
25	4	7	6	7	9	10	9	9	10	11	12	11	15	18	18	19	16	11	11	4	0	1	3	1	9
26	3	1	3	1	0	2	4	3	4	9	12	11	11	9	6	4	2	3	6	8	10	5	6	5	5
27	5	7	4	5	6	6	6	3	1	3	3	3	6	4	4	6	10	6	3	7	6	8	10	12	6
28	11	10	5	6.	9	10	12	9	2	6	7	9	9	7	11	11	11	11	11	14	9	6	6	4	9
MEAN	5	4	4	4	4	4	4	3	3	4	5	6	7	8	9	9	10	8	7	6	5	4	4	4	

TOTAL NUMBER OF OBSERVATIONS = 8008 MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 200 FEET(MPH)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	4	5	4	7	3	3	2	4	3	1	4	2	3	4	6	4	9	8	5	1	2	1	1	4
2	4	7	8	8	6	8	6	4	6	6	5	3	3	6	8	9	8	10	13	9	5	4	6	6	7
3	3	2	1	1	1	0	0	0	0	2	2	3	5	5	6	8	6	4	4	7	4	2	2	0	3
4	0	3	3	0	1	2	3	1	1	2	4	4	7	8	9	10	6	9	5	3	2	1	1	1	4
5	1	1	2	0	0	5	2	1	2	1	5	8	9	9	6	4	6	8	2	2	2	1	1	1	3
6	0	0	0	0	1	2	2	1	1	1	5	5	7	7	7	7	7	6	4	2	2	2	1	1	3
7	1	0	1	1	0	0	0	2	2	0	2	3	4	7	8	7	5	4	2	1	1	3	0	1	2
8	1	2	4	3	2	3	6	4	3	2	3	3	4	3	5	6	7	12	9	1	1	4	5	3	4
9	3	2	4	2	1	2	1	2	0	0	2	5		8	9	9	8	9	8	2	1	3	1	1	4
10	1	1	1	2	2	2	4	3	1	4	2	5	8	9		4	6	9	9	1	0	6	2	1	3
11	0	0	3	0	1	1	1	3	4	2	1	9	12	17	15	14	11	8	4	4	3	0	0	2	5
12	0	2	2	4	1	1	3	1	2	3	4	6	5	6	4	4	8	12	11	4	4	2	3	4	4
13	3	3	3	1	4	4	5	6	6	5	2	3	3	6	10	9	11	9	5	3	5	4	7	8	5
14	12	8	9	7	7	4	1	2	2	2	2	8	14	16	13	11	13	6	6	9	7	1	1	2	7
15	2	0	0	0	2	4	8	11	10	6	3	5	8	7	9	9	10	8	6	11	7	2	1	0	5
16	1	3	2	1	1	0	1	2	4	3	2	3	2	2	11	15	15	19	21	21	19	13	12	13	8
17	18	15	13	8	11	6	4	3	5	2	4	8	10	10	11	13	12	8	11	10	1	7	8	10	9
18	6	4	5	7	4	5	3	3	4	2	4	7	4	9	11	10	12	12	7	7	5	1	0	0	6
19	3	2	1	1	2	1	1	1	2	4	5	8	7	6	8	11	10	9	7	5	10	3	1	1	5
20	3	0	3	1	1	1	2	1	2	1	3	6	5	6	7	9	13	16	19	15	11	10	5	3	6
21	4	8	8	14	9	16	10	3	2	4	12	17	15	16	17	19	20	14	14	32	33	27	10	12	14
22	25	21	14	12	9	4	6	8	8	7	4	6	7	6	13	13	15	10	9	11	13	13	14	11	11
23	10	10	7	6	6	6	4	2	2	3	5	4	6	11	14	15	14	14	11	11	15	11	9	16	9
24	18	15	14	14	15	13	18	12	12	17	13	11	12	14	14	13	14	9	4	2	3	3	4	6	11
25	5	8	7	6	10	11	10	19	11	11	13	12	16	16	19	20	17	13	12	6	1	2	3	2	10
26	3	0	3	2	0	1	3	5	6	10	13	12	13	16	7	4	3	4	7	9	13	8	8	8	6
27	7	9	7	8	7	9	8	5	1	3	3	3	6	5	5	3	11	7	3	8	9	12	15	16	7
28	12	12	9	7	12	14	17	14	4	6	7	10	9	8	11	12	12	12	14	16	16	7	7	4	10
MEAN	6	5	5	4	4	5	5	4	4	4	5	7	7	8	10	10	10	10	8	8	7	5	5	5	

TOTAL NUMBER OF OBSERVATIONS = 6007   MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	84	113	117	141	112	89	120	194	235	85	22	297	152	65	51	295	295	275	270	297	15	67	64	139	89
2	273	298	294	290	286	282	284	267	287	307	296	284	248	267	308	339	352	16	6	341	250	254	251	229	289
3	220	212	151	194	225	141	190	224	119	93	23	22	1	17	298	318	343	300	222	202	79	222	145	246	211
4	218	228	227	168	273	245	122	352	238	324	300	310	304	311	306	301	306	306	254	225	214	185	214	227	260
5	172	183	204	161	163	159	79	138	117	93	219	204	196	202	207	206	202	205	175	195	229	184	169	231	182
6	235	196	259	207	97	289	148	134	172	9	316	298	296	291	301	302	299	287	221	228	220	175	209	202	243
7	186	92	220	183	112	206	215	148	37	78	51	336	299	336	338	321	348	329	209	250	174	91	184	163	188
8	72	101	137	140	137	101	114	135	106	54	13	26	260	218	201	222	208	194	191	78	140	138	114	125	159
9	139	144	134	212	223	211	233	355	41	354	304	290		317	325	318	341	302	294	214	220	225	206	195	258
10	150	230	222	216	163	185	186	99	344	273	293	305	300	315		347	329	297	277	217	214	221	222	164	245
11	147	182	298	166	224	183	228	195	320	236	13	322	339	342	307	350	21	26	46	242	219	183	209	171	254
12	211	191	122	194	233	360	159	216	132	82	55	184	217	228	201	321	269	183	171	59	83	107	112	109	163
13	93	136	101	206	167	76	150	67	147	77	52	8	327	316	341	266	303	317	250	214	310	206	262	31	9
14	355	335	292	254	240	230	163	194	216	276	298	322	336	350	7	21	35	52	103	118	87	192	214	177	290
15	123	210	173	217	178	232	123	190	135	126	33	311	337	354	311	302	298	276	216	206	208	163	177	218	212
16	197	218	157	124	190	168	216	181	331	27	80	342	31	127	209	200	197	202	194	192	192	163	152	129	175
17	198	196	234	55	262	351	56	73	64	52	305	278	297	286	277	286	287	289	216	214	155	197	219	206	250
18	256	221	145	147	236	199	183	163	114	65	40	32	69	358	319	326	305	302	43	161	167	235	196	181	193
19	193	176	161	158	211	157	207	187	57	67	7	348	310	340	328	304	322	298	255	218	220	10	204	222	242
20	195	184	194	187	158	211	197	196	87	2	348	214	242	245	278	217	209	205	198	201	104	35	74	100	192
21	85	91	105	175	133	181	157	96	93	223	223	207	200	202	204	207	186	166	156	186	187	190	212	227	174
22	219	229	263	290	290	357	332	309	15	37	2	11	358	288	299	286	294	285	272	273	260	261	255	262	296
23	269	281	300	262	227	213	202	173	165	353	283	300	260	214	218	225	217	219	219	229	224	223	183	219	233
24	214	226	230	241	205	252	255	262	273	273	300	293	268	275	270	302	356	354	289	228	303	302	253	282	271
25	266	304	296	303	306	320	325	323	321	327	330	345	351	346	349	357	5	358	348	98	215	225	224	172	319
26	216	174	220	94	192	97	206	196	166	198	204	202	228	225	282	224	256	114	296	265	290	289	276	293	225
27	278	292	36	265	239	280	272	234	232	3	340	326	319	268	296	324	296	298	225	193	193	194	177	192	209
28	181	170	95	105	173	186	211	214	9	197	212	215	217	205	194	193	189	172	177	160	152	122	91	76	174
MEAN	195	197	195	192	206	205	186	185	104	26	338	307	291	291	291	292	296	279	230	209	202	194	194	192	

TOTAL NUMBER OF OBSERVATIONS = 6009 MEA. = 230.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	91	108	123	153	128	97	124	204	252	87	12	283	185	55	46	300	295	276	272	292	10	74	68	148	99
2	269	295	291	290	287	283	289	271	267	307	299	279	253	275	310	307	353	5	23	342	283	280	259	253	290
3	220	205	119	176	208	140	172	250	151	101	29	5	4	2	286	333	342	303	218	196	149	250	143	10	195
4	216	249	257	133	287	256	142	9	267	273	297	308	302	313	306	300	307	309	265	218	201	82	205	220	206
5	175	184	205	96	141	160	213	127	131	100	172	206	198	202	203	210	202	204	199	189	204	187	126	257	180
6	233	203	22	290	70	329	152	80	149	9	312	299	297	292	300	301	298	294	255	233	226	260	211	151	273
7	188	72	210	202	107	197	220	112	56	79	43	344	243	336	343	325	348	333	172	210	128	101	189	142	133
8	194	93	139	152	147	152	126	130	111	56	22	14	261	203	205	221	210	193	186	101	149	138	124	133	148
9	141	146	138	177	153	197	238	355	8	295	300	290		318	322	317	339	305	325	219	219	250	208	202	257
10	152	225	226	220	207	212	196	146	319	271	286	303	300	315		306	330	302	306	223	214	227	223	175	248
11	49	182	300	188	258	171	227	181	297	231	288	324	341	342	348	350	22	28	29	202	234	152	194	190	267
12	198	206	79	173	180	321	159	223	144	89	61	187	217	226	191	316	270	189	178	77	93	117	121	117	164
13	107	150	110	197	166	70	147	89	148	99	72	333	324	324	343	288	308	317	257	225	331	[illegible]	290	21	326
14	2	332	294	264	248	248	166	172	211	269	304	321	338	351	7	20	36	53	99	113	67	170	240	172	303
15	118	230	162	203	152	193	145	190	151	130	15	323	336	330	308	301	296	274	212	201	194	157	162	209	205
16	146	187	100	93	185	155	218	167	249	36	82	336	357	144	213	206	200	204	198	193	190	154	188	150	175
17	195	193	206	155	258	51	75	97	84	57	312	286	296	286	278	287	286	255	214	204	149	196	219	205	225
18	256	231	143	142	211	202	184	179	137	61	11	32	69	354	319	326	303	301	41	152	176	226	204	147	180
19	157	160	168	149	219	147	195	186	67	70	7	346	308	311	317	305	322	299	267	211	206	346	145	239	234
20	166	173	186	182	173	235	213	187	103	9	346	215	229	245	277	219	209	207	199	201	191	165	106	108	194
21	114	127	153	166	155	188	165	107	101	233	224	209	200	204	211	208	189	166	162	168	190	193	215	229	181
22	221	236	262	287	286	334	332	287	252	36	1	351	272	285	298	285	292	282	271	273	267	262	257	264	284
23	268	277	292	265	252	211	204	175	175	347	279	297	272	215	217	223	217	218	220	231	231	224	190	220	234
24	216	226	231	240	265	250	253	261	271	270	295	292	269	274	270	295	355	357	290	229	312	322	261	281	272
25	267	301	245	300	308	323	323	318	318	326	328	345	353	348	350	352	4	358	347	73	197	225	222	198	318
26	211	162	222	84	191	108	178	177	173	199	206	206	229	224	262	240	223	115	269	268	292	292	261	286	218
27	279	263	342	283	242	280	274	243	234	6	338	323	318	287	306	323	296	247	232	195	195	198	192	193	272
28	181	178	133	133	172	178	197	202	43	200	215	214	219	208	196	195	192	173	181	182	160	125	98	86	175
MEAN	190	198	191	189	200	200	191	177	164	50	333	304	285	289	291	291	294	281	235	207	200	197	193	189	

TOTAL NUMBER OF OBSERVATIONS = 6009 MEAN = 229.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	112	126	135	163	165	111	125	226	274	76	25	289	182	63	48	318	302	286	284	302	10	82	72	133	101
2	282	302	298	296	294	291	300	287	294	313	307	292	256	291	322	339	360	11	3	360	297	286	271	270	304
3	256	236	122	81	217	261	95	177	146	102	17	10	16	6	319	329	349	323	247	200	175	282	121	250	270
4	257	351	300	99	332	309	219	355	285	256	302	309	310	320	312	307	312	322	306	242	233	72	43	226	302
5	202	108	187	72	107	155	213	126	123	108	198	211	205	208	214	219	204	209	196	170	179	231	55	345	176
6	293	199	344	293	58	356	200	78	90	339	321	312	304	300	308	310	306	309	337	302	276	264	349	109	316
7	143	343	317	247	95	42	265	13	47	88	49	340	302	343	343	330	355	342	115	179	37	152	296	159	8
8	302	56	100	147	136	150	128	136	125	69	26	17	270	231	222	227	214	198	191	116	155	141	129	134	151
9	140	133	131	189	42	159	258	4	5	8	306	297		326	328	320	305	318	350	80	243	290	239	242	314
10	197	290	263	252	247	245	232	218	308	277	294	307	305	321		355	341	315	334	12	256	257	256	227	279
11	71	51	308	232	28	190	310	175	147	223	343	332	347	350	356	358	28	37	29	319	327	190	201	215	345
12	130	254	178	171	140	332	128	261	45	104	71	192	217	246	209	315	275	193	190	115	127	130	137	138	169
13	116	140	106	205	172	121	141	122	157	184	94	335	347	322	348	292	317	324	286	265	341	6	337	17	355
14	11	350	315	302	270	288	153	144	213	271	306	327	345	357	14	27	42	55	97	107	82	150	3	197	0
15	191	204	125	177	128	174	169	181	162	141	110	329	345	339	317	310	304	286	224	210	222	184	179	233	208
16	192	193	123	63	168	259	255	110	181	90	86	335	10	153	216	211	205	209	202	194	196	192	201	162	183
17	194	192	195	193	199	249	167	136	166	71	304	292	302	291	286	293	292	206	231	223	222	222	244	222	232
18	268	275	126	132	167	207	158	200	179	76	58	40	63	5	327	332	310	307	44	142	155	217	252	150	163
19	126	128	37	26	232	137	176	135	94	86	4	351	311	327	323	310	329	306	296	226	202	226	135	47	354
20	158	34	192	100	189	274	281	179	93	41	1	219	244	246	285	221	214	212	204	199	201	179	176	136	201
21	165	176	200	192	179	194	173	126	112	239	229	213	204	209	216	211	192	170	169	192	194	197	219	234	192
22	225	234	267	291	290	356	330	304	11	41	6	357	279	293	304	293	299	289	280	281	277	270	264	271	296
23	275	282	294	281	267	239	243	211	194	339	288	308	260	220	220	220	222	222	226	238	238	229	210	227	246
24	222	230	238	247	270	256	260	267	275	273	298	296	275	286	276	304	360	3	318	263	340	354	296	302	263
25	282	313	305	311	319	332	330	326	326	331	334	350	359	353	356	1	8	3	355	51	129	273	259	252	330
26	249	132	273	123	81	84	162	180	181	201	210	211	235	229	288	251	221	125	267	276	300	304	294	283	227
27	287	293	338	322	267	292	287	287	296	15	350	333	329	296	287	326	301	304	268	199	202	205	200	201	289
28	188	167	185	174	179	182	196	197	165	204	220	219	221	213	200	200	196	176	185	180	171	127	111	101	184
MEAN	208	232	222	201	193	234	208	182	156	59	341	310	294	297	297	298	301	292	265	215	219	213	225	208	

TOTAL NUMBER OF OBSERVATIONS = 6007 MEAN = 256.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	152	171	155	176	187	143	137	255	262	37	14	292	263	60	43	315	304	290	292	305	350	65	40	265	280
2	297	314	310	309	303	303	312	304	305	317	311	299	283	291	318	1	357	9	15	3	353	312	289	284	316
3	276	261	224	132	198	319	81	121	122	117	29	21	13	5	324	317	347	328	283	204	162	234	110	208	285
4	183	352	263	34	67	307	261	292	267	272	302	308	312	315	312	306	313	327	331	274	264	167	102	184	296
5	162	134	220	243	114	168	238	154	126	122	221	215	211	212	215	220	207	216	170	173	154	275	237	355	194
6	322	279	346	274	259	273	252	214	193	287	320	313	303	299	309	310	304	312	341	356	334	290	253	220	292
7	222	348	360	270	233	154	356	353	1	80	41	342	307	343	343	331	357	343	84	149	144	216	269	198	334
8	292	12	138	137	112	159	138	155	141	91	27	18	257	230	226	230	217	203	203	50	168	149	134	134	158
9	159	138	132	182	107	141	313	5	332	2	308	302		325	326	321	344	324	348	359	314	309	287	278	325
10	257	296	287	279	279	271	255	251	274	277	264	310	308	319		355	359	320	338	356	55	41	299	250	300
11	234	101	344	303	53	254	278	160	131	209	21	329	344	348	353	357	25	37	26	317	300	256	256	245	324
12	151	261	234	194	190	294	113	227	244	125	82	200	233	249	217	314	276	199	205	218	171	169	173	147	204
13	253	142	336	226	190	180	141	174	171	203	159	336	340	326	347	293	317	324	302	288	327	4	351	7	290
14	9	350	329	324	286	298	86	129	167	270	304	326	345	356	12	25	39	51	90	97	76	90	79	169	18
15	198	317	251	254	156	163	171	176	165	147	111	334	342	340	315	301	302	267	236	221	240	241	192	246	257
16	236	213	202	50	158	283	333	152	148	128	98	343	301	210	222	217	211	214	210	201	204	207	215	203	206
17	204	202	202	208	208	208	198	202	209	203	301	290	301	294	266	292	272	268	245	240	236	248	201	233	241
18	274	279	131	122	139	200	197	230	206	117	65	38	64	4	325	331	311	306	39	130	140	61	287	125	113
19	112	92	21	4	244	211	214	127	145	107	17	348	324	326	325	308	328	304	306	241	215	213	183	63	302
20	204	172	200	181	253	268	309	30	96	78	329	225	243	253	264	224	217	214	210	207	204	206	203	191	219
21	207	198	213	201	197	203	191	175	171	236	231	215	206	213	218	213	194	175	181	197	149	201	221	235	203
22	229	236	272	295	291	331	324	306	5	37	1	354	211	293	304	293	297	288	282	284	241	272	266	273	295
23	275	281	286	287	284	261	257	245	216	314	288	301	278	223	224	228	220	225	229	242	241	251	225	224	253
24	224	233	203	253	276	262	265	274	281	277	302	299	280	283	278	306	360	2	331	306	352	1	316	319	292
25	295	321	313	317	324	330	330	327	325	330	334	349	359	353	356	1	7	2	356	31	44	308	285	291	336
26	261	262	283	221	88	91	149	186	187	205	215	216	260	238	295	259	227	140	270	274	302	306	295	279	241
27	285	292	332	335	286	298	295	322	5	10	348	341	322	295	307	326	300	306	286	206	219	211	210	211	290
28	196	194	193	197	190	190	203	207	196	205	223	220	221	218	203	202	198	178	149	194	164	142	125	115	192
MEAN	232	254	261	247	212	240	239	214	199	171	334	311	293	296	299	299	301	293	283	250	235	238	241	250	

TOTAL NUMBER OF OBSERVATIONS = 2008 MEAN = 266.

* INDICATES CALIBRATION DURING THE HOUR

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                  DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 8 FEET
                          TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                   HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

 1       20  11  10  19  15  14  13  15  25  25  32  21  35  30  31  22  13  12  13  13  13  11  13  14     18
 2       13  13  13  11  13  13  11  12  13  15  16  22  26  34  31  23  31  22  23  26  15  11  10  11     17
 3       10  17  21  16  10  17  14  12  18  24  33  44  47  24  55                                         23
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MEAN     14  14  15  15  13  14  13  13  18  21  27  28  36  29  38  22  21  16  17  20  11  11  12  12

                       TOTAL NUMBER OF OBSERVATIONS =   709     MEAN  =      19.

              : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	17	8	8	20	14	10	10	13	18	17	25	18	29	32	25	13	12	16	10	11	12	9	11	10	15
2	11	9	9	9	10	10	10	10	11	10	14	17	22	29	23	14	20	10	45	15	14	11	9	9	14
3	8	15	17	12	10	21	10	15	18	25	32	49	51	25	56										23
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MEAN	12	11	11	13	11	14	10	13	15	17	23	27	33	29	35	13	15	10	23	13	13	10	10	10	

TOTAL NUMBER OF OBSERVATIONS = 769 MEA. = 17.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 100 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	14	11	9	14	15	11	10	14	13	16	26	17	22	29	20	21	11	10	9	11	10	9	12	12	14
2	11	10	9	9	11	10	10	10	9	10	12	17	19	19	21	36	23	25	13	21	17	11	9	10	14
3	11	13	14	13	17	14	11	18	18	18	34	41	41	24	36										21
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28																									
MEAN	12	11	11	12	14	12	10	14	13	14	24	25	27	24	25	28	15	17	11	16	13	10	11	11	

TOTAL NUMBER OF OBSERVATIONS = 715 MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

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                    DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 200 FEET
                       TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                  HOUR
          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 MEAN
DAY

 1       13  11  11  12  12  23  15  17  12  15  25  21  27  28  24  12  10   9   9  11  12   8  26  13    16
 2       11   9   9  10   9  10   9  10  10  10  11  14  19  18  22  30  28  18  24  21  21  16  10   8    14
 3        9  11  11  11   9  12   9  12  17  21  40  48  25  28  35                                        19
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MEAN     11  10  10  11  10  15  11  13  13  15  25  27  24  24  26  19  19  14  16  16  16  11  18  11

                 TOTAL NUMBER OF OBSERVATIONS =   712    MEAN  =      16.

          : INDICATES CALIBRATION DURING THE HOUR
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DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	16	9	9	20	16	11	10	13	16	17	15	28	25	20	21	19	12	10	11	18	12	6	10	11	15
2	10	10	10	10	10	10	8	9	10	25	16	16	22	40	17	33	16	10	8	14	17	12	10	9	14
3	8	15	14	11	14	23	8	13	15	19	25	28	29	27											18
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MEAN	11	11	11	13	13	15	9	12	13	20	19	24	25	26	19	26	14	10	9	16	15	10	10	10	

TOTAL NUMBER OF OBSERVATIONS = 697 MEAN = 15.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 100 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	12	11	7	14	14	11	10	14	12	24	20	18	18	29	19	11	10	10	9	9	9	8	11	11	13
2	11	11	9	9	10	10	10	11	9	11	12	17	19	18	12	12	22	48	6	12	13	12	9	10	13
3	11	11	14	10	11	14	15	19	20	18	53			33	18										18
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MEAN	11	11	10	11	12	11	12	15	14	18	26	17	18	26	16	11	16	28	9	10	12	10	10	11	

TOTAL NUMBER OF OBSERVATIONS = 710 MEAN = 15.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 200 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	10	10	10	12	20	13	16	11	13	16	19	24	25	21	12	11	8	8	10	27	16	19	14	15
2	13	9	9	8	9	9	9	9	8	10	11	16	18	17	13	13	38	34	9	16	14	13	9	9	13
3	7	10	12	9	8	17	9	12	13	18	25	27	47	28	20										16
4																									
5																									
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27																									
28																									
MEAN	11	10	10	9	10	15	11	12	11	14	17	19	27	23	17	12	23	19	8	13	20	14	14	11	

TOTAL NUMBER OF OBSERVATIONS = 710 MEAN = 15.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	59	59	58	56	57	59	58	56	57	59	59	64	77	85	79	81	85	91	95	96	96	98	99	99	74
2	99	99	100	100	100	99	99	98	97	95	94	92	88	82	79	76	73	72	70	71	73	77	82	84	87
3	85	87	86	87	89	91	90	90	91	82	75	68	61	58	56	55	56	58	64	70	71	72	72	72	75
4	72	73	75	76	78	81	82	81	81	77	71	67	62	56	55	54	55	58	60	65	66	65	67	68	69
5	69	66	71	68	66	65	66	64	65	64	59	56	54	53	52	52	52	55	58	62	66	68	66	68	62
6	68	70	72	73	75	76	78	79	78	76	69	62	58	55	53	50	49	49	52	55	58	58	59	62	64
7	63	64	66	70	70	71	75	76	75	68	61	52	44	41	46	40	39	38	41	46	46	47	49	51	56
8	54	57	57	55	56	56	57	57	55	51	45	40	36	34	35	36	37	40	45	47	47	47	48	48	48
9	47	46	46	49	49	51	53	54	51	47	45	43		37	36	36	36	34	36	38	40	43	44	46	44
10	46	49	51	51	51	50	51	50	50	48	46	44	43	42		40	46	40	41	43	66	49	52	53	47
11	55	56	58	59	59	62	64	65	62	59	56	52	51	55	67	65	70	70	72	77	60	81	83	88	65
12	90	91	92	91	91	90	89	87	86	80	71	58	51	48	49	48	46	54	59	63	64	63	65	66	71
13	65	66	67	69	69	70	70	73	71	68	64	57	53	49	48	46	47	49	51	53	54	57	59	64	60
14	68	74	78	84	91	94	95	95	93	88	84	76	70	66	65	65	69	73	75	78	78	77	78	78	79
15	78	80	80	78	76	78	78	73	71	62	55	51	49	49	48	47	47	48	52	54	55	56	56	60	62
16	61	62	63	65	64	64	67	65	64	61	52	48	45	43	42	40	45	47	48	49	50	51	51	51	54
17	51	52	52	53	53	54	56	56	55	51	45	42	41	40	39	39	41	43	47	50	50	50	52	53	49
18	52	55	55	55	56	57	55	55	53	50	45	42	40	40	40	41	40	39	42	48	51	54	55	55	49
19	56	57	60	63	67	67	69	70	66	59	51	48	46	45	44	42	42	43	44	48	53	52	52	52	54
20	52	51	51	50	51	52	52	52	52	49	44	39	38	36	33	36	37	39	41	42	40	39	41	40	44
21	40	40	39	40	41	40	40	41	40	37	36	35	36	35	36	37	36	37	37	38	39	39	40	42	38
22	56	78	98	99	99	99	98	94	94	98	99	99	99	99	87	85	85	89	92	93	93	87	89	88	91
23	88	88	90	89	91	92	91	88	83	80	72	67	63	62	61	59	57	58	61	64	71	79	79	74	75
24	71	73	71	70	69	74	79	75	69	65	63	60	54	51	48	48	65	70	74	76	79	80	83	87	69
25	92	96	97	98	98	95	91	95	93	92	89	83	73	70	66	67	69	69	68	71	76	80	82	81	83
26	81	82	85	86	84	84	85	85	79	66	63	61	61	67	86	90	92	88	91	95	95	95	90	86	85
27	86	86	88	90	95	96	97	96	94	87	82	76	68	64	58	57	55	53	57	64	66	65	64	63	75
28	62	62	64	65	65	66	67	66	64	61	59	58	57	56	56	56	56	58	60	60	62	62	64	65	61
MEAN	66	69	70	71	72	73	73	73	71	67	63	58	56	54	54	53	54	56	58	61	63	64	65	60	

TOTAL NUMBER OF OBSERVATIONS = 6008 MEAN = 64.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1																									
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28																									
MEAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	62	61	60	59	60	62	60	60	60	63	66	72	86	95	89	91	95	99	100	100	100	100	100	100	79
2	100	100	100	100	100	100	100	100	100	100	100	100	99	95	91	87	82	78	75	76	76	81	84	86	92
3	87	88	90	91	92	94	94	94	96	92	85	77	70	67	64	63	64	65	67	71	75	76	77	75	80
4	72	79	82	82	84	86	87	88	88	86	81	77	71	67	64	62	63	63	65	67	68	70	71	71	75
5	72	71	71	71	69	69	70	69	69	68	66	64	63	62	60	60	60	62	64	66	67	70	71	72	67
6	73	74	76	78	81	83	85	86	86	85	79	72	68	64	61	58	56	55	55	57	59	62	64	65	70
7	66	69	71	75	76	76	78	82	82	77	70	60	53	48	47	46	45	45	46	48	49	51	54	55	61
8	59	62	61	59	60	60	61	61	60	58	53	48	43	41	41	43	45	47	50	51	51	51	51	51	53
9	51	51	51	52	52	52	54	58	58	55	53	51		45	43	43	42	40	43	45	47	47	48	51	49
10	54	55	56	56	56	56	56	56	56	57	55	53	52	51		48	47	47	47	50	51	53	56	57	53
11	59	59	62	64	64	66	68	69	68	68	66	62	61	63	75	76	82	80	82	85	88	90	90	92	72
12	92	95	97	94	90	91	90	89	89	84	79	68	60	57	56	56	56	62	66	68	68	68	69	69	76
13	69	69	70	70	70	73	73	74	74	69	67	64	61	56	55	54	53	54	55	58	60	62	66	70	65
14	74	81	87	94	99	100	100	100	100	100	97	88	82	77	75	76	79	83	84	84	85	82	82	82	87
15	82	83	83	82	80	77	77	73	71	68	64	60	57	57	56	55	55	55	57	59	59	61	61	61	66
16	63	64	64	66	66	66	68	68	68	66	60	55	53	50	49	51	52	53	55	55	55	56	57	57	59
17	56	56	56	57	57	58	59	59	59	58	52	48	47	46	45	45	47	49	50	53	54	55	55	57	53
18	58	59	59	60	59	58	58	57	56	56	52	48	47	46	47	47	46	45	48	53	55	56	58	58	54
19	59	60	62	65	68	70	70	70	71	67	59	55	54	53	51	48	48	49	50	51	53	56	56	55	58
20	55	54	53	54	55	55	56	56	55	55	50	45	44	41	38	41	42	44	46	45	46	45	44	45	48
21	44	43	43	44	45	45	45	45	44	43	41	41	41	41	41	42	41	42	43	43	44	45	46	46	43
22	56	83	100	100	100	100	100	100	100	100	100	100	100	100	96	90	92	97	99	100	100	99	98	98	96
23	98	97	98	97	97	98	97	94	92	90	82	77	71	69	64	65	64	64	67	71	78	88	86	80	83
24	79	81	79	77	77	82	88	85	79	74	72	70	63	59	55	55	71	79	82	85	86	87	91	98	77
25	100	100	100	100	100	100	100	100	100	100	100	97	85	81	79	77	80	78	76	78	83	84	85	85	90
26	84	85	87	89	89	89	89	85	86	76	75	73	73	79	95	100	100	99	99	100	100	100	98	95	89
27	94	95	95	98	100	100	100	100	100	99	96	89	60	74	68	65	61	60	60	67	70	70	70	68	82
28	66	65	67	67	68	69	69	70	71	69	68	66	65	64	64	63	63	64	65	64	65	68	70	71	67
MEAN	71	73	74	75	75	76	77	77	76	74	71	67	64	63	62	61	62	63	64	66	68	69	70	70	

TOTAL NUMBER OF OBSERVATIONS = 8004 MEAN = 70.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARAITON OF RELATIVE HUMIDITY AT 200 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	58	57	57	56	56	57	57	56	57	63	62	66	82	93	86	88	93	91	94	95	95	96	98	99	76
2	99	99	100	100	99	99	99	97	96	98	96	94	89	93	88	83	78	73	69	70	73	76	79	81	89
3	82	83	85	86	86	89	89	89	90	87	81	73	66	63	60	60	61	61	62	66	67	69	70	69	75
4	67	74	78	78	78	81	82	83	83	82	77	73	67	63	66	58	59	60	61	63	64	65	65	65	70
5	66	66	65	66	64	63	64	64	64	63	62	60	60	58	57	57	57	58	61	63	64	65	66	67	63
6	69	71	71	73	75	78	80	81	81	80	75	64	64	60	58	54	52	52	52	54	55	58	60	61	66
7	63	64	65	70	72	71	71	74	75	70	66	56	49	45	45	44	43	43	45	46	46	48	51	52	57
8	56	58	57	55	54	55	56	55	55	54	50	46	41	41	41	43	44	46	48	48	48	46	47	48	50
9	47	47	48	48	48	48	50	51	52	51	49	48		43	42	41	41	40	42	44	45	45	46	48	46
10	51	53	52	52	51	51	51	51	53	54	52	51	50	50		47	46	46	46	49	50	51	53	55	51
11	56	57	58	56	61	63	65	65	64	66	61	58	57	59	73	73	80	78	80	82	86	87	87	88	69
12	91	93	95	91	86	87	86	84	81	76	76	64	58	55	56	55	55	61	64	66	66	66	66	65	73
13	66	66	66	67	67	69	70	70	69	64	64	62	59	55	55	53	52	53	54	57	58	61	66	69	62
14	69	77	84	91	95	98	98	97	96	93	95	84	77	71	70	71	75	78	79	81	80	76	77	75	83
15	77	79	78	77	74	71	68	64	63	63	59	56	55	55	54	53	53	53	55	56	56	58	58	58	62
16	59	60	61	62	62	62	63	63	62	57	55	53	51	48	48	50	51	52	53	53	52	53	53	53	56
17	52	52	52	54	53	54	56	56	55	54	50	47	46	46	44	44	46	48	49	50	52	53	53	54	51
18	55	56	56	56	55	54	55	54	53	53	50	47	46	46	46	46	45	44	47	53	54	54	56	56	51
19	57	59	61	63	64	66	67	66	65	63	57	54	53	52	50	48	48	48	49	50	52	53	53	52	56
20	51	51	51	50	51	50	52	52	51	52	48	44	40	38	35	39	40	41	45	43	42	42	43	44	46
21	43	41	41	42	43	43	44	43	43	42	38	38	38	38	38	40	38	39	40	40	41	42	43	45	41
22	51	83	93	95	94	93	87	81	82	91	95	96	96	89	89	85	85	91	95	97	97	92	91	91	89
23	94	93	93	91	91	91	91	88	85	84	76	70	65	64	62	59	58	59	62	66	76	66	63	75	78
24	74	77	73	72	72	79	86	81	74	67	66	64	57	52	46	50	68	75	77	77	80	82	87	95	72
25	91	94	95	97	96	91	94	99	97	97	93	93	79	75	74	72	75	73	69	73	77	78	78	77	85
26	76	78	79	82	83	83	82	78	78	69	67	67	68	75	86	92	93	88	86	97	95	93	92	87.	82
27	87	85	87	87	96	97	98	98	90	90	70	84	75	68	62	57	55	54	54	61	61	62	62	60	76
28	59	59	60	61	61	61	61	62	65	64	63	62	61	59	60	60	59	60	60	59	61	63	65	66	61
MEAN	67	69	70	71	71	72	72	71	71	69	67	63	61	59	59	56	59	59	61	63	64	65	66	66	

TOTAL NUMBER OF OBSERVATIONS = 8008 MEAN = 66.

: INDICATES CALIBRATION DURING THE HOUR

CORPORATION

DIURNAL VARIATION OF TEMPERATURE AT 8 FEET(DEG F)
TRAILER NO. = 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	27	28	28	29	29	28	28	29	29	29	31	30	28	29	31	32	32	27	26	26	26	25	25	24	28
2	25	24	23	23	23	22	21	20	21	22	22	24	26	29	31	31	31	31	29	26	23	21	17	16	24
3	15	14	16	14	12	13	13	12	15	21	26	30	32	34	36	36	35	32	26	25	25	24	24	23	23
4	21	20	20	19	18	17	15	17	19	23	26	29	33	35	36	36	34	31	28	24	23	24	22	21	25
5	22	22	19	23	25	24	24	26	25	30	35	37	37	38	39	39	37	34	32	27	25	25	26	24	29
6	23	22	22	20	19	19	19	18	20	24	28	30	33	35	36	37	37	34	28	25	24	24	23	21	26
7	22	20	17	19	18	18	15	16	19	25	31	34	37	38	39	40	38	36	29	25	26	26	25	25	27
8	25	24	26	25	24	24	22	22	26	32	37	40	43	44	44	45	44	39	32	31	29	28	26	26	32
9	26	27	26	24	23	20	19	19	23	30	34	36		41	42	42	41	37	34	30	28	27	25	25	29
10	25	23	23	22	21	21	21	21	24	28	32	35	39	41		41	42	38	34	32	27	26	24	26	29
11	25	24	23	24	23	23	19	20	24	30	33	37	38	36	33	35	33	32	30	25	25	25	23	21	27
12	21	19	22	20	18	18	20	19	21	28	35	38	41	42	42	43	43	37	34	30	30	31	30	29	30
13	30	29	28	27	27	26	26	25	27	31	35	38	41	43	44	44	43	41	37	35	34	32	31	30	33
14	29	29	26	24	23	23	24	23	27	28	30	33	35	36	36	35	34	31	28	26	25	23	22	20	28
15	21	18	20	21	22	20	20	22	25	33	37	40	42	44	46	46	45	42	37	36	35	35	34	29	32
16	30	29	29	28	29	28	25	28	31	35	40	43	45	47	50	49	47	44	40	39	37	36	36	35	37
17	36	35	33	32	33	32	31	31	35	41	46	48	49	49	50	49	48	44	38	35	37	37	35	35	39
18	36	31	33	32	28	27	29	29	35	39	44	46	46	47	48	47	47	45	41	36	33	31	31	30	37
19	30	30	28	27	23	26	24	24	30	38	41	43	45	46	47	48	47	44	40	34	33	35	34	33	35
20	32	33	32	32	30	28	27	29	33	41	46	49	51	52	54	54	52	48	42	38	37	36	35	35	39
21	34	33	34	36	36	35	37	35	39	46	49	51	52	50	50	50	48	46	43	45	45	45	45	44	43
22	45	37	32	31	30	28	26	25	25	23	23	25	24	26	27	26	26	25	24	23	23	23	22	21	27
23	21	20	18	17	15	14	14	16	20	22	26	28	30	31	32	31	31	29	27	25	25	24	23	24	24
24	26	26	27	26	26	25	24	24	25	26	26	28	29	31	31	30	27	24	23	21	20	20	19	18	25
25	18	18	18	17	17	16	16	15	15	17	20	21	24	25	25	25	24	23	21	18	12	12	10	12	18
26	11	10	6	8	9	9	7	7	17	22	23	24	23	23	20	21	22	22	20	19	14	17	16	14	16
27	14	12	10	11	12	12	12	12	15	17	20	21	22	25	25	27	26	24	23	22	22	21	19	19	18
28	21	19	10	16	16	15	15	17	23	28	31	32	33	34	35	35	33	32	30	29	27	27	25	25	26
MEAN	25	24	23	23	22	22	21	21	25	29	32	35	36	38	38	38	37	35	31	29	28	27	26	25	

TOTAL NUMBER OF OBSERVATIONS = 8009 MEAN = 29.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 30 FEET(DEG F)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	HOUR																								
1	27	28	29	30	29	28	28	29	29	28	30	28	26	28	30	30	30	26	25	25	21	23	23	23	27
2	24	22	22	21	21	20	19	18	18	19	19	21	24	27	28	29	29	29	27	25	23	21	18	17	22
3	16	17	15	15	15	12	13	12	12	19	24	28	30	32	34	35	34	33	29	26	25	24	24	23	23
4	21	21	20	19	18	16	16	16	18	21	24	27	30	32	33	34	33	31	29	27	26	25	24	23	24
5	22	23	22	23	25	25	25	26	25	28	33	35	36	36	37	36	37	34	32	30	28	26	26	25	29
6	25	23	22	21	18	19	18	17	19	22	26	26	31	33	34	35	35	34	32	30	27	24	24	23	26
7	22	20	19	18	17	18	16	15	17	23	29	33	36	37	38	37	38	36	34	32	28	28	27	27	27
8	25	25	26	25	25	25	22	22	24	30	37	40	42	43	44	44	43	39	34	31	30	29	26	26	31
9	26	27	27	28	25	24	20	18	21	28	32	34		40	40	41	40	38	35	33	31	28	28	27	30
10	26	24	24	23	22	22	21	21	22	26	30	33	36	39		41	41	39	36	33	32	31	27	27	29
11	26	25	24	23	24	23	21	22	23	27	32	36	36	34	31	33	31	31	30	27	26	26	26	23	27
12	23	20	21	22	19	19	20	19	20	26	33	36	39	41	41	43	42	37	34	31	30	31	29	30	29
13	30	30	29	29	29	27	27	25	27	31	34	37	40	42	43	43	43	42	39	37	34	33	32	31	34
14	29	29	26	24	22	22	23	23	24	26	28	31	32	34	34	33	31	29	27	26	25	24	23	22	27
15	21	19	20	22	23	22	21	23	24	31	35	39	41	42	44	45	44	42	38	37	36	36	36	35	32
16	32	31	31	30	31	30	27	29	30	34	39	42	44	47	49	48	47	44	40	39	38	37	36	36	37
17	37	37	35	34	34	33	33	33	34	40	45	47	48	48	49	48	47	45	40	38	39	39	37	36	40
18	36	34	34	33	30	30	31	30	34	38	43	44	46	46	47	46	46	45	42	39	37	34	32	32	38
19	33	33	31	29	26	27	26	26	28	35	39	41	43	45	46	47	46	45	42	39	36	36	36	36	36
20	34	34	34	33	32	30	29	30	32	40	45	48	50	51	53	52	52	44	43	40	39	39	38	37	40
21	37	37	37	36	36	37	38	36	39	45	48	49	50	49	49	50	48	46	44	45	45	45	45	45	43
22	44	36	31	29	28	26	26	24	23	21	22	22	21	23	25	26	24	23	22	21	21	21	20	20	25
23	19	18	17	16	15	14	14	15	18	21	24	25	27	28	29	29	29	28	25	24	23	23	22	23	22
24	25	25	25	24	24	23	22	21	22	23	23	25	27	28	24	24	24	23	22	21	20	19	17	17	23
25	16	16	15	15	14	14	13	12	12	13	15	17	21	21	22	22	21	20	19	17	15	14	12	11	16
26	10	10	8	8	9	8	9	8	14	18	19	20	29	20	16	19	19	20	18	16	16	16	14	13	15
27	12	11	9	9	9	9	9	9	11	15	18	19	21	22	23	25	25	24	23	22	21	20	18	18	17
28	20	19	17	16	16	15	15	17	21	26	28	30	31	32	33	33	33	31	30	29	27	26	25	25	25
MEAN	26	25	24	23	23	22	22	21	23	27	30	33	35	36	36	37	36	34	32	30	29	26	27	26	

TOTAL NUMBER OF OBSERVATIONS = 1008 MEAN = 29.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 100 FEET(DEG F)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	28	30	30	31	31	30	31	30	30	28	29	27	25	26	28	29	28	25	25	25	25	23	24	23	28
2	24	23	22	22	21	20	18	18	18	18	18	20	23	25	26	28	28	28	27	25	23	21	19	18	22
3	17	17	16	15	15	14	14	14	13	18	23	26	30	32	33	34	34	33	31	29	27	26	26	26	23
4	21	21	21	20	20	17	18	18	18	21	23	27	29	31	33	33	33	31	30	29	25	26	26	25	25
5	24	25	25	26	27	27	27	27	28	29	33	34	35	36	37	37	36	35	33	31	30	28	28	26	30
6	25	24	23	21	19	19	18	18	19	21	25	24	29	31	34	35	35	34	33	31	29	26	25	25	26
7	24	23	20	19	19	19	19	15	18	23	29	32	35	36	37	38	37	36	34	34	31	30	29	29	20
8	27	26	27	27	26	26	25	25	25	29	36	39	41	42	43	43	42	40	35	33	33	31	30	30	33
9	30	28	27	29	27	27	24	19	22	27	30	33		39	39	40	40	38	36	33	32	31	29	28	31
10	27	26	25	24	24	23	23	22	22	25	29	32	35	38		40	40	39	37	34	33	32	29	29	30
11	29	28	26	24	27	25	23	24	25	27	32	34	35	34	31	33	31	31	31	28	26	26	27	25	28
12	25	23	22	23	23	22	22	21	22	27	32	35	38	40	40	41	41	37	34	32	32	32	31	32	30
13	32	32	32	31	32	29	29	28	29	33	34	37	39	41	42	42	42	42	39	37	35	34	33	32	35
14	31	28	26	23	22	22	23	23	23	25	28	30	31	33	33	33	31	29	28	27	25	26	24	23	27
15	22	21	22	22	23	24	23	25	25	29	34	37	40	41	43	44	44	42	39	36	38	36	36	36	33
16	34	34	33	32	33	32	30	31	32	35	39	41	43	46	48	47	46	43	41	39	39	36	37	37	36
17	38	38	37	35	36	35	35	35	36	40	44	46	46	47	47	47	46	45	42	40	40	40	39	38	40
18	37	36	35	34	33	32	33	32	35	38	42	43	45	45	45	45	45	45	42	39	39	36	34	33	38
19	35	34	33	31	29	29	29	29	29	35	38	40	42	44	45	46	45	45	43	41	39	37	37	38	37
20	36	36	36	35	34	33	31	32	33	39	44	47	49	50	51	51	50	48	44	42	41	43	40	39	41
21	39	39	38	38	38	38	39	38	40	44	47	48	48	48	48	49	47	45	44	45	45	45	45	45	43
22	44	36	30	29	28	26	26	24	24	21	20	21	20	22	24	25	24	23	22	21	21	21	21	20	25
23	19	17	16	16	16	15	15	15	17	20	23	25	26	28	29	29	29	27	26	25	24	23	23	24	22
24	25	25	25	25	24	23	22	22	23	23	23	24	25	26	27	26	23	22	21	21	20	18	18	17	23
25	16	15	14	14	13	13	12	11	11	12	14	16	20	20	21	21	20	20	19	17	15	15	13	12	16
26	12	11	9	9	10	10	10	11	14	17	18	19	19	19	17	18	18	19	18	16	15	15	14	13	15
27	12	12	10	9	9	9	9	9	10	14	16	18	19	20	21	23	23	23	22	21	21	20	18	18	16
28	21	21	19	18	18	17	18	19	22	25	27	28	29	30	31	32	31	30	29	28	28	27	26	26	25
MEAN	27	26	25	25	24	24	23	23	24	27	30	32	33	35	35	36	35	34	32	31	30	29	28	28	

TOTAL NUMBER OF OBSERVATIONS = FOUR MEAN = 29.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 200 FEET(DEG F)
TRAILER NO. = 23 PERIOD(2/ 1/77 TO 2/28/77)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	27	29	29	29	30	29	29	28	28	26	27	26	24	24	26	27	27	24	23	23	23	22	22	21	26
2	22	21	20	20	19	17	16	16	16	16	16	18	20	23	25	26	27	27	26	24	22	20	18	17	20
3	17	17	16	16	16	14	14	15	14	17	22	25	26	30	32	31	31	31	29	29	27	26	24	24	23
4	22	22	20	21	20	18	17	17	17	19	22	25	28	29	31	32	31	30	29	28	27	25	25	25	24
5	23	24	24	24	25	26	25	25	26	27	30	32	32	33	34	35	34	33	30	29	29	27	26	25	28
6	24	23	22	21	19	18	18	17	18	20	23	23	27	29	31	32	32	32	31	29	28	24	23	23	24
7	24	23	22	19	19	20	20	18	19	23	27	31	33	33	34	35	36	35	33	33	30	28	27	27	27
8	26	25	27	27	27	26	25	25	25	28	33	36	38	40	41	41	40	39	35	33	33	31	29	29	32
9	29	29	28	29	29	27	25	23	21	26	29	31		37	38	38	38	36	34	31	30	29	27	26	30
10	25	24	23	22	22	21	22	22	21	23	28	31	34	35		37	38	37	35	32	31	30	28	28	28
11	28	27	26	23	25	23	22	22	25	26	29	32	33	31	28	30	28	29	28	27	25	24	24	23	27
12	23	22	20	22	22	21	21	21	22	26	29	33	36	37	38	37	39	35	33	31	30	30	31	32	29
13	32	31	32	31	32	29	27	28	29	32	32	34	37	39	39	40	40	40	37	35	34	32	31	30	33
14	29	27	25	22	22	22	22	22	22	24	26	28	29	30	31	31	29	28	27	26	25	23	22	22	26
15	22	22	22	22	23	24	25	25	25	28	32	35	38	40	42	43	43	41	39	38	38	36	35	36	32
16	33	33	32	32	33	32	31	32	33	36	37	40	42	44	47	46	44	41	39	38	38	36	37	36	37
17	38	37	36	34	36	34	33	33	35	38	42	44	44	45	45	45	44	43	42	41	38	36	37	37	39
18	36	35	35	35	34	33	32	33	35	36	39	41	43	43	44	43	43	43	40	37	37	35	33	32	37
19	33	33	31	30	29	27	29	29	31	34	37	39	40	42	44	44	43	43	42	40	39	37	37	36	36
20	35	35	34	34	33	34	32	32	34	38	43	46	46	48	49	49	49	46	43	42	40	39	39	38	40
21	38	38	36	37	36	37	38	37	39	42	45	46	46	46	46	47	45	43	42	43	43	43	43	43	42
22	42	34	28	27	26	24	23	22	21	18	18	19	18	20	22	24	22	20	20	19	19	19	18	18	23
23	17	16	15	15	15	14	15	15	16	18	21	23	24	25	26	27	26	26	24	23	22	21	22	23	20
24	22	22	23	23	22	20	19	20	21	22	21	22	24	25	26	25	21	20	19	19	18	17	15	14	21
25	14	13	12	12	11	11	10	9	10	11	12	15	18	19	19	19	19	19	18	17	15	13	12	11	14
26	10	9	10	9	9	9	9	10	12	15	16	17	18	17	15	16	17	18	17	15	13	13	12	12	13
27	10	10	8	7	7	7	7	8	8	12	14	16	18	19	20	22	22	21	21	20	20	19	17	18	15
28	20	19	18	17	17	17	17	19	20	23	25	26	27	28	29	31	31	30	29	28	27	26	25	24	24
MEAN	26	25	24	24	23	23	22	22	23	25	28	30	32	33	33	34	34	32	31	30	28	27	26	26	

TOTAL NUMBER OF OBSERVATIONS = 668 MEAN = 28.

: INDICATES CALIBRATION DURING THE HOUR

```
                              HOURLY TOTAL SOLAR RADIATION(LANGLEY)
                               TRAILER NO. - 23  PERIOD( 2/ 1/77 TO  2/28/77)

                                                         HOUR
           1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24 TOTAL
DAY

 1         0   0   0   0   0   0   0   1   4  13  11   7   9  44  35  16  10   0   0   0   0   0   0   0   150
 2         0   0   0   0   0   0   0   0   5  13  13  24  35  48  19  16   6   0   0   0   0   0   0   0   179
 3         0   0   0   0   0   0   0   3  20  37  45  48  49  46  39  21  10   1   0   0   0   0   0   0   319
 4         0   0   0   0   0   0   0   2  14  19  34  35  49  47  41  24  11   1   0   0   0   0   0   0   277
 5         0   0   0   0   0   0   0   1   6  20  31  33  36  34  33  21   9   1   0   0   0   0   0   0   227
 6         0   0   0   0   0   0   0   2  14  30  42  43  50  46  40  28  13   1   0   0   0   0   0   0   309
 7         0   0   0   0   0   0   0   2  16  29  41  48  51  48  41  28  13   1   0   0   0   0   0   0   318
 8         0   0   0   0   0   0   0   2  15  30  41  49  51  48  41  29  11   1   0   0   0   0   0   0   318
 9         0   0   0   0   0   0   0   2  16  31  42  50   4  33  42  30  13   1   0   0   0   0   0   0   264
10         0   0   0   0   0   0   0   2  15  30  42  50  52  49   3  30  14   2   0   0   0   0   0   0   289
11         0   0   0   0   0   0   0   2  16  27  36  50  39  15  13  15  12   2   0   0   0   0   0   0   227
12         0   0   0   0   0   0   0   7  27  28  29  35  51  34  25  29  14   2   0   0   0   0   0   0   281
13         0   0   0   0   0   0   0   1   8  10  20  25  47  48  39  27  12   3   0   0   0   0   0   0   240
14         0   0   0   0   0   0   0   2  19  14  25  28  36  38  28  27   7   1   0   0   0   0   0   0   225
15         0   0   0   0   0   0   0   2  11  19  39  49  51  45  41  30  12   2   0   0   0   0   0   0   301
16         0   0   0   0   0   0   0   4  18  23  38  43  52  52  43  31  14   2   0   0   0   0   0   0   320
17         0   0   0   0   0   0   0   2  14  27  41  46  47  43  41  20  10   2   0   0   0   0   0   0   293
18         0   0   0   0   0   0   0   4  15  33  44  48  43  32  40  22  19   4   0   0   0   0   0   0   304
19         0   0   0   0   0   0   0   4  18  34  45  53  55  52  40  33  17   3   0   0   0   0   0   0   356
20         0   0   0   0   0   0   0   5  20  35  47  54  57  55  46  34  18   3   0   0   0   0   0   0   372
21         0   0   0   0   0   0   0   3  19  34  40  52  53  31  26  16   8   2   0   0   0   0   0   0   284
22         0   0   0   0   0   0   0   2   5   8  11   7   8  15  15  13   7   1   0   0   0   0   0   0    92
23         0   0   0   0   0   0   0   9  26  40  50  53  51  50  33  26  20   3   0   0   0   0   0   0   361
24         0   0   0   0   0   0   0   3  11  30  28  54  54  54  37  27  13   3   0   0   0   0   0   0   314
25         0   0   0   0   6   0   0   3   9  17  30  35  24  36  25  27  17   2   0   0   0   0   0   0   225
26         0   0   0   0   0   0   0   6  31  24  32  51  23  11   6  11  10   2   0   0   0   0   0   0   207
27         0   0   0   0   0   0   0   4  26  50  55  63  55  50  37  44  21   2   0   0   0   0   0   0   409
28         0   0   0   0   0   0   0   8  22  39  51  59  60  56  46  32  12   2   0   0   0   0   0   0   387

TOTAL/10   0   0   0   0   0   0   0   8  44  74 100 119 119 115  91  70  35   5   0   0   0   0   0   0

                      TOTAL NUMBER OF OBSERVATIONS =  8011     TOTAL =    7850.

           : INDICATES CALIBRATION DURING THE HOUR
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TEMPERATURE CHANGE FROM 30' TO 100' (DEG F*10)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	10	17	17	13	15	15	21	9	7	0	-3	-3	-3	-4	-5	-6	-4	-2	0	0	0	0	0	0	3
2	-1	-2	-1	-1	-1	-2	0	0	-2	-4	-4	-4	-6	-7	-5	-6	-3	0	0	1	3	7	11	15	-1
3	10	10	19	13	12	26	15	27	12	-3	-5	-5	-6	-5	-8	-7	-3	0	17	27	14	15	16	17	8
4	13	4	12	14	11	13	14	4	0	-3	-6	-6	-8	-8	-8	-6	-3	0	4	12	15	4	12	13	4
5	15	16	25	16	15	18	13	8	18	5	-5	-7	-8	-7	-8	-6	-4	0	1	10	20	19	10	11	7
6	2	10	15	8	10	2	8	13	5	0	-7	-6	-8	-8	-6	-7	-4	0	8	8	12	13	6	18	3
7	19	18	18	16	23	15	25	4	12	0	-3	-6	-9	-6	-7	-7	-3	-2	5	12	25	17	20	15	8
8	16	18	22	28	16	21	30	30	14	-2	-4	-6	-8	-8	-9	-8	-6	0	12	15	27	23	38	39	12
9	30	21	13	25	22	40	41	17	5	-3	-7	-8		-9	-8	-7	-3	0	4	2	5	15	11	9	9
10	13	12	6	10	12	12	13	12	0	-7	-6	-7	-10	-8		-5	-5	0	6	4	3	6	14	18	3
11	19	25	16	8	14	15	22	15	11	-2	-2	-9	-7	-4	-3	-5	-3	0	0	7	2	3	6	16	5
12	17	17	6	16	33	18	15	14	13	3	-4	-7	-9	-9	-7	-7	-7	-1	3	10	14	10	17	24	7
13	12	18	25	20	22	17	17	21	17	24	1	-4	-7	-8	-7	-8	-4	0	1	2	3	5	5	2	7
14	9	2	7	2	3	1	0	2	-3	-5	-4	-6	-7	-7	-5	-6	-4	-1	3	6	1	13	6	17	0
15	14	27	23	5	8	20	25	22	15	-4	-6	-7	-7	-7	-9	-6	-4	-1	7	9	15	5	6	17	6
16	20	23	20	23	15	22	33	13	13	8	-4	-6	-7	-8	-11	-10	-6	-1	1	3	8	7	6	7	6
17	10	10	16	9	16	21	18	18	14	-1	-6	-9	-10	-10	-10	-8	-4	0	20	19	7	10	18	17	6
18	5	13	15	10	23	25	17	16	8	0	-6	-7	-7	-7	-9	-7	-7	-2	0	7	15	21	15	11	6
19	13	15	18	15	28	18	23	25	7	-4	-6	-7	-9	-8	-9	-9	-6	-1	4	19	32	7	8	12	7
20	19	20	21	18	18	20	15	14	11	-2	-5	-10	-10	-9	-11	-10	-6	0	8	17	15	16	15	22	7
21	19	21	10	9	13	13	9	17	6	-7	-9	-11	-11	-9	-7	-6	-6	-1	0	0	0	0	0	0	1
22	-1	-3	0	0	-1	0	0	0	0	-2	-2	-3	-4	-5	-4	-4	-1	0	0	0	0	0	0	0	-2
23	0	0	0	3	12	15	14	6	-4	-4	-9	-8	-9	-9	-8	-7	-6	-2	0	0	0	0	4	6	-0
24	0	0	0	0	0	0	0	0	-1	-4	-6	-9	-7	-8	-5	-6	-4	-1	0	1	3	2	2	0	-2
25	0	-1	-1	0	-1	-1	-1	-2	-3	-4	-7	-6	-5	-6	-5	-5	-4	0	3	2	6	6	14	14	-1
26	17	18	16	19	14	17	12	31	0	-5	-7	-7	-6	-4	-3	-3	-3	-1	0	0	0	0	0	3	4
27	1	5	9	5	2	0	0	0	-4	-4	-6	-7	-8	-8	-7	-8	-5	0	2	2	3	3	6	8	-0
28	5	6	18	14	13	16	20	16	0	-9	-11	-11	-11	-11	-10	-8	-4	0	0	3	5	1	6	1	1
MEAN	11	12	13	11	13	14	15	13	6	-2	-6	-8	-9	-8	-8	-6	-5	-1	3	7	9	8	10	12	

TOTAL NUMBER OF OBSERVATIONS = 7996 MEAN = 4.

: INDICATES CALIBRATION DURING THE HOUR

TEMPERATURE CHANGE FROM 30' TO 200' (DEG F*10)
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	11	6	4	9	13	11	-2	0	-6	-21	-14	-21	-25	-25	-24	-23	-21	-17	-18	-16	-13	-10	-12	-9
2	-19	-18	-17	-19	-20	-23	-22	-19	-22	-25	-25	-25	-26	-26	-25	-24	-21	-17	-12	-10	-7	0	0	1	-18
3	-1	-2	4	5	6	16	7	23	15	-22	-26	-25	-25	-25	-25	-25	-22	-15	6	28	27	17	11	9	-1
4	16	0	2	5	9	9	6	-2	-11	-22	-24	-25	-27	-27	-27	-24	-21	-13	-4	0	3	-2	8	10	-7
5	17	12	22	10	4	13	5	2	13	-5	-23	-25	-26	-25	-25	-23	-22	-9	-11	0	13	12	1	4	-3
6	-6	0	7	3	13	0	1	6	0	-12	-26	-23	-27	-26	-26	-25	-22	-16	-1	0	3	1	-3	12	-7
7	14	19	18	10	15	15	29	25	20	-3	-24	-25	-26	-25	-25	-25	-21	-18	-4	1	28	10	12	10	1
8	13	9	19	27	26	19	33	32	11	-16	-24	-24	-25	-24	-25	-24	-22	-9	5	10	23	17	52	55	4
9	29	21	16	21	34	37	46	52	1	-19	-22	-23		-29	-26	-25	-20	-12	-2	-4	-6	5	0	0	3
10	4	0	-2	2	3	4	5	6	-12	-26	-24	-25	-28	-26		-24	-22	-14	0	-5	-6	-2	6	8	-8
11	19	22	18	2	9	10	15	11	12	-11	-20	-28	-26	-22	-19	-25	-23	-17	-14	-1	-2	-4	-6	11	-4
12	6	14	-2	8	32	17	13	17	22	0	-23	-25	-26	-25	-24	-24	-23	-17	-5	0	5	0	14	24	-1
13	7	10	26	15	19	24	11	28	21	16	-11	-23	-26	-26	-26	-24	-21	-14	-9	-7	-3	-3	-3	-4	-1
14	0	-9	-3	-5	-6	-11	-15	-12	-20	-25	-23	-26	-27	-28	-25	-26	-25	-19	-10	-5	-6	1	0	10	-14
15	7	18	15	-1	0	14	27	24	10	-21	-25	-26	-26	-25	-27	-24	-24	-15	-1	4	10	0	-5	6	-3
16	16	19	19	21	13	14	30	19	20	9	-21	-24	-25	-24	-27	-24	-22	-15	-7	-4	1	2	4	1	-0
17	10	8	19	2	18	14	12	9	14	-16	-22	-26	-26	-26	-22	-22	-19	-12	21	28	-4	0	10	14	-0
18	-1	3	6	11	27	28	6	14	0	-12	-24	-25	-25	-24	-26	-23	-23	-17	-13	-3	5	14	6	1	-4
19	3	3	10	8	29	13	19	26	18	-19	-25	-26	-27	-20	-27	-25	-22	-14	-2	11	33	1	0	3	-1
20	12	14	12	15	21	36	18	15	14	-17	-23	-26	-26	-24	-27	-24	-23	-11	1	15	12	12	5	17	0
21	8	10	3	1	4	8	0	7	0	-24	-23	-22	-26	-24	-20	-25	-18	-15	-12	-14	-13	-15	-14	-13	-10
22	-15	-21	-15	-18	-18	-16	-16	-15	-14	-23	-22	-23	-22	-23	-20	-16	-15	-18	-18	-20	-17	-20	-19	-20	-20
23	-19	-16	-13	-8	0	5	-1	-7	-21	-21	-26	-26	-26	-28	-23	-21	-24	-20	-18	-13	-16	-16	-6	-6	-16
24	-14	-16	-16	-13	-18	-18	-19	-18	-20	-9	-24	-26	-22	-19	-15	-23	-24	-21	-17	-12	-10	-11	-12	-18	-18
25	-18	-22	-21	-20	-22	-24	-23	-24	-25	-27	-30	-29	-28	-29	-27	-26	-26	-19	-12	-9	-7	-5	2	2	-20
26	3	3	12	10	-1	5	0	22	-12	-26	-28	-29	-23	-24	-23	-23	-23	-20	-17	-21	-16	-15	-11	-8	-12
27	-12	-6	-2	-8	-10	-15	-15	-12	-22	-26	-27	-26	-28	-27	-26	-27	-23	-19	-13	-6	6	-4	0	0	-16
28	-6	-5	9	1	4	15	17	17	-15	-27	-27	-28	-28	-29	-28	-26	-22	-18	-11	-7	-4	-7	0	-10	-10
MEAN	2	2	5	3	7	7	7	8	-0	-16	-25	-26	-27	-26	-25	-25	-23	-17	-8	-2	0	-1	0	3	

TOTAL NUMBER OF OBSERVATIONS = 7999 MEAN = -7.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF BAROMETRIC PRESSURE
TRAILER NO. = 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	787	787	786	786	786	786	786	786	786	785	785	785	785	784	783	783	783	783	784	784	784	784	785	785	785
2	785	785	785	785	785	785	785	786	787	787	787	788	788	787	787	787	787	788	788	789	790	790	791	791	787
3	791	792	792	792	792	792	793	793	794	794	794	794	794	794	794	794	794	794	794	794	794	794	794	794	793
4	794	794	794	794	794	795	795	795	795	795	796	795	794	794	794	793	793	793	793	793	793	794	794	794	794
5	794	793	793	793	792	792	792	792	792	792	792	791	790	790	789	789	790	789	790	790	789	790	790	790	791
6	790	790	790	791	791	792	792	792	793	793	793	792	792	792	792	792	792	792	792	793	793	793	794	794	792
7	795	794	794	795	795	795	795	795	796	796	796	795	795	795	794	794	794	794	794	795	795	795	795	795	795
8	795	795	795	794	794	794	795	794	794	794	794	794	793	792	792	792	792	792	792	792	792	792	792	791	793
9	791	791	791	792	791	791	790	790	790	790	790	790		789	789	789	788	789	789	789	790	790	790	791	790
10	791	791	791	791	791	792	792	792	792	793	793	793	793	793		791	791	791	792	792	793	793	793	793	792
11	793	792	793	793	793	794	794	794	794	795	794	794	793	793	793	794	794	794	795	796	796	796	797	797	794
12	797	797	798	798	798	798	797	797	798	798	798	797	797	796	796	796	795	796	796	796	796	796	795	796	797
13	795	795	796	795	795	794	795	795	794	793	793	793	792	791	791	791	791	790	791	791	791	791	792	792	793
14	792	792	793	793	793	793	793	793	793	793	793	793	792	793	793	792	792	792	793	793	793	793	793	794	793
15	794	794	794	794	794	794	794	794	794	794	794	794	793	793	792	792	792	793	793	793	793	794	794	794	793
16	794	795	794	795	795	795	796	796	796	796	796	796	795	794	793	793	793	793	793	793	793	793	793	793	794
17	793	793	793	793	793	793	793	793	794	794	794	794	793	792	792	792	793	793	792	793	793	793	794	793	793
18	793	794	794	794	794	794	794	795	795	795	795	795	794	794	794	794	794	794	794	794	795	795	796	796	794
19	796	796	796	796	797	797	797	797	797	798	798	798	797	796	796	796	796	796	796	796	796	796	797	796	796
20	796	796	796	796	796	795	795	795	795	795	795	794	793	792	792	791	791	791	791	791	791	790	790	790	793
21	789	789	789	789	788	788	788	787	787	787	786	785	785	784	783	781	780	779	778	777	776	776	776	774	783
22	774	774	774	774	774	775	775	775	775	775	776	776	776	776	776	776	777	778	778	779	779	780	780	781	776
23	781	781	781	782	782	783	783	783	784	784	784	784	783	782	781	781	781	781	781	781	781	782	781	780	782
24	780	780	780	780	781	781	781	781	782	782	782	782	782	781	781	781	781	781	781	781	781	782	782	782	781
25	782	782	781	781	781	782	782	782	783	784	784	784	784	784	784	784	785	785	786	786	787	787	787	788	784
26	788	788	788	788	788	788	788	788	788	788	788	787	787	786	787	786	786	786	786	787	788	788	788	789	787
27	789	789	789	790	790	791	791	792	793	793	793	793	793	792	792	792	792	792	792	793	793	793	793	793	792
28	793	793	793	793	793	793	793	793	793	793	793	792	791	791	790	789	789	788	788	787	787	786	786	785	790
MEAN	790	790	790	790	790	790	791	791	791	791	791	791	790	790	789	789	789	789	789	790	790	790	790	790	

TOTAL NUMBER OF OBSERVATIONS = 6000 MEAN = 791.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	4	4	3	4	4	5	2	3	2	1	5	2	2	3	6	8	8	5	3	2	2	2	1	3
2	4	5	6	6	5	6	4	3	5	6	5	3	4	6	8	9	7	8	8	6	4	5	7	6	6
3	5	5	0	1	4	0	1	3	1	2	3	3	5	5	5	7	6	4	5	5	1	3	3	1	3
4	3	2	1	1	1	2	2	1	1	2	6	5	6	7	7	9	7	6	3	5	4	0	2	3	4
5	3	0	3	0	3	5	0	3	4	2	4	7	8	8	5	3	5	4	2	3	4	5	1	1	3
6	1	2	0	1	1	2	0	0	1	2	5	5	6	7	6	6	6	5	1	3	4	0	1	0	3
7	0	0	2	2	0	0	2	0	1	2	2	3	3	6	7	6	5	4	1	3	2	2	2	0	2
8	1	3	4	3	2	5	5	5	3	3	2	3	4	3	4	5	6	8	6	3	5	5	5	4	4
9	4	3	5	4	1	3	4	2	1	0	4	6		7	8	6	7	7	3	1	3	3	3	2	4
10	3	2	3	3	3	1	2	1	1	3	2	5	7	7		7	5	6	4	0	3	3	4	2	3
11	2	3	4	3	2	2	4	4	2	3	2	8	10	13	11	12	9	6	3	3	1	1	2	0	5
12	3	2	1	3	4	1	3	2	3	3	4	5	4	5	3	3	7	9	5	3	3	2	4	5	4
13	4	5	4	4	4	4	6	5	4	3	2	3	2	5	8	7	9	7	4	2	2	1	3	5	4
14	6	5	7	4	5	2	2	2	2	2	2	6	11	13	11	10	10	5	4	5	4	3	1	2	5
15	2	2	2	2	2	2	3	4	4	5	3	4	7	6	8	7	8	6	4	5	3	1	1	6	4
16	2	0	2	3	3	2	4	2	0	2	2	3	3	3	8	12	12	11	11	11	9	6	3	5	5
17	9	6	3	0	2	2	3	2	2	2	4	7	8	8	10	11	9	5	6	5	3	3	5	4	5
18	2	3	5	5	5	3	1	3	1	3	4	6	4	7	10	6	10	9	6	5	4	3	1	1	5
19	3	3	2	2	5	2	3	3	2	4	4	7	6	5	7	10	9	6	3	5	5	1	0	1	4
20	1	0	1	0	2	2	2	2	3	2	4	6	4	5	6	7	10	10	10	6	3	2	2	4	4
21	3	3	3	7	5	7	6	4	3	3	10	14	13	12	13	14	16	10	8	22	24	20	11	8	10
22	18	15	10	9	6	3	2	4	0	0	0	0	0	0	9	10	11	7	6	8	8	9	10	7	6
23	6	7	5	3	5	5	3	2	1	3	4	4	6	9	11	12	11	10	7	6	10	6	3	8	6
24	12	10	9	8	10	9	13	8	10	14	13	9	10	11	12	11	12	7	3	3	3	2	3	4	9
25	4	6	5	6	7	8	8	9	9	10	11	10	13	15	15	16	13	9	8	3	2	2	4	1	8
26	3	3	6	2	0	1	3	2	3	8	10	10	10	7	6	3	2	3	5	6	8	4	4	4	5
27	4	5	2	3	5	5	4	2	0	2	2	2	5	4	4	7	9	5	2	4	2	5	5	7	4
28	8	8	2	4	6	5	7	5	2	5	6	8	8	6	10	10	9	9	8	10	6	4	3	4	6
MEAN	4	4	4	3	4	3	4	3	3	4	4	6	6	7	8	8	8	7	5	5	5	4	3	4	

TOTAL NUMBER OF OBSERVATIONS = 8006 MEAN = 5.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET
TRAILER NO. - 25 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	4	5	4	6	5	5	2	4	3	2	5	2	3	4	6	8	9	7	4	1	2	1	0	4
2	4	6	6	7	5	6	5	3	5	7	5	4	4	6	8	9	7	8	11	7	4	4	6	6	6
3	3	3	0	0	2	0	0	1	0	2	2	4	6	6	6	5	6	5	5	8	3	2	3	0	3
4	1	1	3	0	0	2	3	0	0	1	4	5	6	8	8	9	7	7	4	4	3	0	0	1	3
5	1	0	2	0	2	5	1	2	4	2	4	8	9	8	6	4	6	6	1	2	3	2	1	0	3
6	0	0	0	0	0	1	1	0	0	1	5	5	6	7	6	7	6	5	4	1	3	0	0	0	2
7	0	0	0	2	0	0	1	1	1	2	2	3	4	6	8	7	5	4	2	0	2	2	0	0	2
8	1	3	6	5	2	7	7	6	4	2	2	2	3	3	4	5	7	11	8	3	4	6	6	5	5
9	7	5	7	2	1	2	4	2	0	0	4	5		8	8	9	7	9	5	0	1	3	2	2	4
10	1	1	1	3	3	2	3	1	0	4	3	5	6	8		7	5	7	6	0	0	1	3	1	3
11	1	0	4	2	1	2	2	3	3	3	1	10	13	16	14	14	11	7	4	4	1	0	1	2	5
12	0	1	0	4	2	1	4	1	1	4	4	5	5	6	4	3	7	10	7	3	4	3	4	6	4
13	5	5	4	2	4	5	6	6	6	3	2	4	3	7	10	9	11	9	5	2	4	2	5	6	5
14	10	7	8	6	7	3	0	2	2	2	3	8	14	16	13	12	13	6	6	8	5	3	0	2	6
15	2	0	1	0	1	3	5	7	7	5	3	4	7	6	8	6	9	7	6	7	4	1	1	3	4
16	1	1	1	3	3	0	1	1	0	1	2	3	2	3	10	13	13	14	15	14	12	8	6	7	6
17	14	10	8	3	6	2	1	1	2	1	4	7	9	9	11	12	11	6	8	7	2	3	6	7	6
18	0	4	6	7	4	3	1	2	2	3	4	6	4	8	10	9	11	12	7	6	6	0	2	0	5
19	3	2	1	0	4	2	2	1	1	4	5	8	8	6	7	11	9	8	4	5	7	1	1	0	4
20	1	0	1	6	1	1	1	1	3	2	4	6	5	5	6	8	13	14	15	10	5	5	3	4	5
21	3	5	4	9	6	10	8	3	2	2	10	15	15	15	17	16	19	13	11	28	30	24	14	10	12
22	23	20	13	11	8	3	5	6	7	6	4	6	7	6	12	13	14	9	8	10	11	11	11	9	10
23	9	9	6	5	5	5	3	1	1	3	5	5	7	11	14	15	13	13	10	8	12	9	6	13	8
24	16	13	12	12	13	12	15	11	11	15	13	11	12	13	14	13	13	8	3	2	3	2	3	4	10
25	5	7	6	7	9	10	9	9	11	11	13	12	15	18	18	16	16	11	11	5	0	1	3	1	9
26	3	1	3	2	0	2	4	4	4	10	13	12	12	9	6	4	2	3	6	8	11	5	5	6	6
27	5	7	4	5	6	6	5	3	0	3	3	3	6	4	4	8	10	5	2	6	5	8	9	11	5
28	11	10	5	6	10	11	12	8	2	6	6	9	9	7	10	11	10	10	10	13	8	6	6	4	8
MEAN	5	4	4	4	4	4	4	3	3	4	5	6	7	8	9	10	10	8	7	6	5	4	4	4	

TOTAL NUMBER OF OBSERVATIONS = 6006 MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF BI-VANE WIND SPEED AT 200 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	4	3	4	8	2	3	2	4	3	1	4	3	3	4	6	9	10	8	4	1	1	1	1	4
2	5	7	7	7	5	6	5	3	5	7	5	3	3	6	8	9	8	10	13	9	5	3	6	6	6
3	3	2	1	1	1	1	1	1	1	1	1	3	5	4	5	6	6	4	3	7	3	2	2	1	3
4	1	3	2	1	1	2	2	1	1	2	4	5	7	8	9	10	8	9	5	3	2	1	1	1	4
5	1	1	2	1	1	4	2	1	1	1	5	8	9	9	6	4	5	8	1	1	2	1	1	2	3
6	1	1	1	1	1	2	2	1	1	1	5	6	7	8	7	7	7	6	4	2	2	2	1	1	3
7	0	0	0	0	0	0	1	2	2	1	2	3	4	7	8	7	6	4	2	1	1	3	1	1	2
8	1	2	4	3	2	3	6	3	3	2	3	3	4	3	4	6	7	12	10	1	1	4	5	3	4
9	3	2	4	1	1	2	1	1	1	1	2	5		8	9	10	8	10	8	2	1	3	1	1	4
10	1	1	1	2	2	2	4	3	1	4	2	6	8	8		7	5	8	9	2	1	1	2	1	3
11	1	1	3	1	1	1	1	2	4	1	1	9	12	18	16	14	11	7	4	4	2	1	1	2	5
12	1	2	1	4	1	1	4	1	2	3	3	6	5	6	4	3	8	12	11	3	4	2	3	4	4
13	4	4	3	1	4	4	5	6	6	5	2	3	2	7	10	9	12	9	5	3	5	5	7	8	5
14	13	9	9	7	7	4	1	2	2	1	2	8	14	16	12	11	12	7	7	9	6	4	1	2	7
15	2	1	1	1	1	4	7	11	10	6	2	5	7	6	9	9	10	7	6	9	6	2	1	1	5
16	1	2	2	1	2	1	1	2	4	3	2	3	2	2	10	14	15	19	21	21	19	11	13	14	8
17	19	15	13	8	12	6	3	2	4	1	4	8	10	10	12	13	12	9	11	11	1	5	5	9	9
18	6	3	4	6	4	4	3	2	4	2	4	8	4	8	12	10	13	12	8	7	6	1	1	1	5
19	0	2	2	1	3	1	1	2	2	5	5	8	7	6	9	12	10	8	6	5	11	4	2	1	5
20	3	1	3	2	1	1	1	0	1	0	2	7	5	6	7	9	12	16	21	15	10	9	4	3	6
21	3	7	8	14	8	16	11	2	1	2	12	18	16	16	18	20	21	15	15	35	35	20	16	12	15
22	26	22	16	13	10	4	6	9	8	7	4	6	8	6	12	14	15	10	10	12	12	12	12	10	11
23	10	11	6	6	6	5	3	2	2	2	5	4	7	11	15	15	14	14	11	10	14	10	8	15	9
24	17	13	12	12	16	13	17	13	13	18	12	11	13	14	15	13	12	8	3	1	3	2	4	5	11
25	4	7	6	8	10	10	9	10	11	11	12	12	16	18	18	20	15	11	10	5	1	2	3	2	10
26	2	1	2	1	1	1	2	4	5	9	12	11	10	8	5	4	2	3	6	8	11	6	6	6	5
27	5	7	5	6	5	7	5	4	1	2	3	3	6	4	4	8	10	5	2	6	6	10	13	13	6
28	10	8	6	6	10	13	17	13	4	7	7	9	8	7	10	11	10	10	12	14	9	6	6	3	9
MEAN	5	5	5	4	4	4	4	4	4	4	5	7	7	8	10	10	10	9	8	8	7	5	5	5	

TOTAL NUMBER OF OBSERVATIONS = 8009 MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	HOUR																								
1	117	134	149	167	149	117	144	240	274	106	47	316	145	72	42	312	305	284	285	306	59	97	89	163	118
2	276	299	294	293	290	285	292	275	290	328	283	271	258	278	344	350	356	6	357	355	280	252	249	244	296
3	255	238	112	215	238	149	188	263	121	111	36	1	354	358	306	355	347	315	225	198	135	272	168	17	257
4	247	300	313	148	41	303	159	40	309	327	299	309	303	314	306	301	309	313	271	217	199	40	238	250	293
5	203	202	243	72	160	187	358	147	152	116	201	208	199	204	205	214	204	204	232	209	239	215	125	301	196
6	268	236	24	348	79	7	171	54	118	42	314	304	300	294	302	303	300	299	272	241	232	351	257	115	306
7	67	59	246	237	94	50	265	71	71	78	41	340	298	339	340	325	350	336	166	212	95	115	231	175	28
8	46	95	139	150	149	151	120	129	110	51	21	35	266	205	221	239	218	199	191	103	107	135	122	130	141
9	136	144	138	186	122	202	237	360	359	332	299	289		316	320	314	336	307	326	223	220	242	208	202	262
10	177	268	265	257	240	250	230	157	11	278	298	307	303	317		351	334	307	315	272	216	232	227	161	269
11	55	186	336	258	305	197	248	208	62	275	16	326	343	344	351	353	26	31	69	303	206	175	229	220	313
12	241	254	108	201	347	19	168	258	177	90	61	188	231	243	201	328	274	190	179	74	85	109	116	121	172
13	109	146	113	199	163	55	144	90	148	96	68	335	342	317	345	289	312	322	265	231	338	10	324	52	22
14	4	336	300	277	254	261	161	162	217	276	310	324	339	355	10	23	38	53	100	116	84	168	350	199	332
15	96	293	191	239	185	199	142	190	147	128	18	327	338	335	311	305	300	280	215	203	204	194	191	241	228
16	164	34	124	118	215	147	251	193	307	66	106	357	44	158	217	209	203	207	200	193	195	185	192	142	175
17	195	192	213	255	242	56	71	90	74	55	317	290	299	290	283	291	290	258	217	206	119	195	221	208	239
18	302	266	167	167	243	233	209	205	147	58	40	34	12	2	323	330	308	306	45	149	168	241	240	156	238
19	177	191	194	167	254	168	232	214	89	68	10	350	312	322	321	310	327	305	276	210	213	33	151	300	259
20	186	75	232	229	202	320	253	215	122	32	351	217	251	248	283	221	213	210	201	190	145	213	99	102	210
21	104	123	134	185	150	187	162	191	92	241	228	212	202	207	213	210	190	166	161	189	192	194	218	253	181
22	219	230	262	286	286	346	326	297	6	33	360	349	273	285	297	220	291	282	269	272	267	261	255	263	288
23	268	276	295	267	234	210	203	170	171	345	280	297	272	214	215	221	215	216	218	229	230	223	190	219	233
24	215	225	231	241	266	251	255	263	272	270	295	292	270	275	271	300	354	356	302	232	315	326	207	284	274
25	268	303	298	302	309	323	322	319	319	325	327	343	351	345	348	355	360	354	344	66	186	220	223	202	318
26	246	188	258	102	237	143	175	172	168	200	208	203	228	222	283	239	251	104	279	267	290	292	280	286	227
27	283	294	337	283	243	280	273	244	252	6	344	326	319	289	297	321	295	297	233	192	191	194	185	193	274
28	179	177	129	128	169	176	203	201	33	198	215	214	218	208	195	195	191	170	178	181	155	127	97	85	174
MEAN	205	224	216	217	220	210	208	193	114	36	340	308	291	290	294	296	298	267	242	215	197	206	206	198	

TOTAL NUMBER OF OBSERVATIONS = 8007 MEAN = 248.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	109	126	133	162	162	109	124	225	271	43	11	285	177	45	55	304	298	283	281	296	357	76	60	94	72
2	282	302	298	296	293	290	300	286	293	314	309	297	279	294	322	325	340	4	350	347	320	286	277	276	304
3	250	231	111	79	196	240	67	193	168	98	16	308	87	1	318	323	339	324	252	206	173	208	102	233	246
4	258	332	286	144	5	296	215	331	280	276	305	311	310	317	312	310	313	316	306	247	238	68	14	211	298
5	199	102	174	52	89	148	209	125	121	104	199	212	266	209	210	219	206	211	178	168	177	226	48	326	175
6	275	191	331	310	33	341	202	110	79	312	316	306	304	303	308	310	309	316	331	303	263	258	40	110	313
7	142	6	308	241	87	34	268	358	27	86	47	341	313	345	344	333	356	344	111	180	10	153	285	127	4
8	228	56	122	153	139	147	125	133	123	72	13	355	264	235	227	230	222	206	199	109	151	139	126	132	153
9	139	131	127	195	46	165	263	359	360	13	309	303		321	323	321	336	319	342	45	253	269	244	242	313
10	197	283	262	250	243	241	230	214	311	273	290	315	315	323		352	341	324	331	360	252	254	251	220	278
11	85	45	298	224	2	195	290	171	158	220	327	332	345	346	350	353	24	34	26	322	316	141	201	214	329
12	142	253	167	168	147	321	122	251	2	102	60	194	219	207	211	313	270	191	189	126	126	129	128	137	173
13	108	135	85	203	169	96	135	118	159	193	86	331	339	329	345	303	319	325	296	277	313	3	335	13	1
14	3	343	313	303	274	285	148	144	210	267	300	332	345	358	14	27	42	55	97	106	82	127	352	195	357
15	186	251	122	169	127	171	166	177	159	141	116	322	340	333	318	312	303	286	225	212	223	171	177	229	204
16	175	175	179	43	154	231	260	104	163	75	61	321	325	164	213	209	203	206	200	192	194	191	194	179	185
17	192	190	193	191	192	229	117	133	162	72	299	289	299	290	286	298	294	266	231	223	222	224	244	223	230
18	267	275	123	129	182	192	156	197	176	65	53	33	61	1	328	332	319	318	41	141	156	225	247	151	151
19	122	123	360	11	228	137	181	135	72	78	6	343	308	321	321	312	325	309	290	224	203	227	158	30	324
20	163	17	192	128	190	95	271	171	91	23	340	209	250	241	279	220	211	209	202	197	188	187	171	131	193
21	158	178	201	194	181	196	175	128	114	242	230	215	206	211	218	213	194	172	169	190	193	195	216	230	193
22	222	252	265	288	286	349	331	307	7	36	2	354	281	294	303	292	299	289	280	281	277	270	264	271	295
23	274	281	294	282	267	237	240	212	195	326	285	301	277	221	222	228	223	223	226	237	238	228	210	225	246
24	220	227	237	207	271	256	260	267	275	274	299	293	274	280	276	306	352	355	317	266	338	345	299	303	283
25	278	310	310	311	315	331	330	326	326	331	333	349	360	353	357	2	9	3	356	54	101	262	254	247	331
26	246	121	266	136	76	84	161	179	178	199	209	209	233	226	282	252	229	123	264	278	306	304	295	264	224
27	288	293	325	310	267	289	288	288	289	10	338	337	325	301	269	317	300	304	265	200	203	206	202	204	286
28	190	190	187	177	182	184	198	198	163	205	221	220	222	215	202	201	199	178	188	192	174	129	113	102	186
MEAN	203	230	228	205	193	217	207	185	164	34	330	305	292	297	296	297	299	294	264	221	224	214	225	205	

TOTAL NUMBER OF OBSERVATIONS = 6009 MEAN = 257.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	153	170	156	174	185	145	139	252	282	42	355	292	205	60	45	311	301	289	291	301	309	75	25	259	266
2	296	316	312	311	307	306	313	306	307	317	311	296	284	293	328	341	331	8	4	360	354	318	296	291	316
3	262	242	208	126	181	275	82	123	125	113	28	29	350	353	311	325	340	323	277	203	168	214	87	167	226
4	203	337	267	95	91	288	243	264	246	242	296	301	308	318	312	304	313	325	329	272	260	156	103	157	281
5	165	129	201	182	114	154	217	148	121	118	216	213	209	210	212	207	207	217	170	161	147	248	202	336	183
6	301	242	332	254	236	250	232	197	175	256	317	308	301	297	309	311	306	314	340	340	316	274	211	197	278
7	199	283	342	246	204	139	310	334	344	78	31	338	306	341	341	330	355	342	79	137	138	200	244	156	319
8	272	18	142	141	120	159	142	156	144	101	23	13	246	217	218	227	211	200	198	51	164	151	158	159	160
9	150	132	127	168	98	126	273	351	302	308	288	304		326	328	328	344	326	346	337	286	290	268	253	306
10	234	270	267	262	260	253	240	236	249	258	264	309	308	317		353	356	320	336	333	53	240	279	227	280
11	196	142	330	207	39	177	262	153	116	189	318	332	344	347	354	356	24	38	9	303	286	229	244	224	300
12	158	243	218	182	175	268	88	205	224	120	82	200	231	247	214	310	279	187	190	189	159	159	162	140	193
13	209	134	322	205	176	164	134	164	160	188	145	21	328	329	349	297	320	328	305	288	329	6	352	10	300
14	12	358	330	326	290	298	94	124	172	243	283	329	347	359	15	27	40	51	89	95	76	68	65	174	24
15	182	280	212	202	148	163	170	176	165	149	155	321	339	338	314	309	306	289	237	224	240	219	178	221	222
16	218	198	191	38	145	274	315	148	139	123	93	327	282	176	219	215	210	213	209	202	203	206	214	204	200
17	206	204	205	208	209	208	261	200	207	194	299	289	300	290	284	290	291	267	245	241	242	243	256	230	240
18	269	275	141	132	148	200	196	226	206	150	65	34	65	3	322	329	312	308	37	123	132	59	225	124	138
19	100	76	4	345	223	192	193	130	136	104	17	345	323	323	323	309	328	306	309	244	219	197	167	95	304
20	187	162	165	166	214	239	276	21	109	68	330	223	239	234	282	227	217	215	212	207	205	205	201	190	211
21	203	198	210	200	197	204	192	182	179	228	228	216	206	212	218	213	196	178	183	198	199	199	219	230	203
22	231	238	270	293	290	330	324	308	3	34	360	354	283	295	308	297	300	289	285	284	282	274	268	275	297
23	277	283	289	280	285	265	258	245	218	312	289	295	280	226	228	231	229	228	231	244	242	253	227	232	254
24	228	235	244	253	275	261	264	272	279	276	301	299	278	281	277	306	360	2	333	307	353	5	319	322	292
25	301	323	316	320	326	335	331	328	327	331	334	349	360	354	357	2	0	3	357	30	44	310	265	287	337
26	255	205	262	203	107	93	141	188	189	205	214	215	242	237	292	255	227	147	266	276	301	305	295	279	232
27	286	294	332	355	290	299	301	323	5	8	347	340	322	245	302	321	303	307	283	211	222	211	212	212	298
28	198	197	200	198	192	193	205	208	204	204	219	215	219	217	204	205	196	178	189	194	165	145	130	114	193
MEAN	222	235	249	216	199	224	227	209	194	173	320	310	289	295	298	298	300	293	283	249	253	224	225	213	

TOTAL NUMBER OF OBSERVATIONS = 8009 MEAN = 256.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 30 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
	HOUR																								
1	25	27	26	18	25	28	30	20	24	22	14	30	40	48	46	44	41	38	42	48	49	50	50	50	35
2	48	45	45	45	46	45	49	50	46	42	39	36	35	36	39	39	38	38	39	36	26	27	31	29	40
3	27	27	0	3	20	4	16	32	35	29	21	24	32	25	21	27	26	20	21	19	-4	0	4	-3	18
4	-1	-6	-9	-8	-13	-3	-6	-7	-15	-14	8	10	13	15	13	13	13	13	6	10	0	-23	-8	-1	-0
5	0	-17	-5	-18	0	4	-18	0	2	-4	1	7	8	8	5	1	7	5	-4	0	0	-2	-10	-11	-2
6	-13	-9	-21	-21	-18	-12	-30	-30	-31	-6	2	3	4	4	2	1	0	0	-12	-4	0	-29	-26	-32	-12
7	-40	-33	-19	-12	-26	-44	-19	-33	-24	-4	-6	-3	-2	3	5	3	3	2	-6	-1	-10	-9	-8	-24	-13
8	-16	-3	0	-1	-11	0	0	0	0	-1	-2	-3	-1	-2	0	0	2	4	0	0	0	3	3	1	-1
9	1	0	2	-2	-18	-4	0	-12	-18	-28	0	2		3	4	5	7	7	0	-11	0	0	-1	-8	-3
10	-2	-12	-6	-5	-6	-16	-10	-13	-22	-4	-8	1	2	4		5	1	1	-1	-26	0	-1	-1	-14	-6
11	-22	-11	-5	-8	-20	-16	-11	-9	-23	-14	-20	0	0	0	0	0	0	-4	-12	-18	-28	-24	-22	-13	-13
12	-11	-3	5	7	9	25	14	22	11	0	-8	-11	-12	-9	-13	-14	-4	-3	-9	-13	-13	-16	-11	-7	-3
13	-8	-9	-8	-14	-12	-7	-7	-8	-12	-12	-12	-12	-20	-7	-1	-1	0	0	-8	-15	-14	-31	-18	-7	-11
14	-3	-8	-6	-12	-9	-12	-12	-10	-10	-19	-18	-11	-4	-2	-2	-2	-3	-9	-12	-10	-11	-19	-17	-25	-11
15	-18	-1	-13	-27	-23	-17	-17	-15	-15	-11	-16	-8	-4	-5	-1	-1	0	-4	-8	-6	-17	-31	-29	-7	-13
16	-27	-39	-23	-21	-24	-27	-18	-24	-39	-20	-22	-16	-19	-17	-2	0	0	0	0	0	-1	-6	-17	-12	-16
17	-2	-7	-16	-38	-18	-14	-15	-15	-16	-18	-6	-3	0	0	0	0	0	-2	-2	-4	-13	-12	-6	-7	-10
18	-21	-13	-7	-8	-14	-17	-27	-17	-30	-11	-7	0	-5	0	0	0	0	0	0	-1	-5	-15	-22	-27	-11
19	-15	-15	-21	-20	-11	-18	-17	-18	-24	-8	-9	0	-3	-6	0	0	0	0	-5	-1	-6	-26	-37	-31	-13
20	-27	-34	-29	-37	-16	-27	-14	-10	-9	-3	0	1	0	0	1	3	5	6	5	0	-7	-9	-9	0	-9
21	-2	-2	-12	0	0	0	0	-3	-4	-10	1	3	4	5	6	6	6	4	1	6	6	5	2	1	0
22	3	1	0	0	0	2	1	0	-1	-2	11	7	3	4	0	-1	-3	-4	-6	-7	-9	-10	-12	-15	-2
23	-15	-16	-16	-17	-15	-14	-15	-16	-22	-14	-13	-14	-11	-10	-9	-8	-9	-8	-11	-14	-19	-14	-19	-10	-14
24	-8	-9	-9	-10	-8	-10	-8	-11	-10	-7	-7	-8	-7	-5	-4	-3	-1	-5	-21	-19	-20	-26	-20	-17	-11
25	-15	-10	-10	-9	-8	-8	-9	-9	-9	-8	-8	-7	-5	-5	-4	-3	-4	-6	-6	-20	-23	-21	-18	-17	-12
26	-26	-25	-16	-24	-25	-11	-21	-22	-13	-12	-10	-10	-10	-12	-9	6	10	2	2	-2	-3	0	0	0	-10
27	0	-2	1	0	-1	0	1	16	30	22	14	15	2	0	2	-3	-6	-6	-11	-12	-15	-16	-16	-11	-0
28	-10	-11	-22	-17	-13	-14	-13	-16	-23	-11	-9	-7	-7	-8	-4	-5	-4	-5	-6	-5	-7	-9	-10	-9	-11
MEAN	-8	-8	-8	-10	-8	-7	-7	-6	-9	-5	-3	0	0	1	3	3	4	2	-1	-3	-5	-10	-9	-9	

TOTAL NUMBER OF OBSERVATIONS = 7999 MEAN = -5.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 100 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-20	-20	-18	-22	-19	-19	-20	-31	-22	-27	-33	-18	-31	-27	-21	-15	-10	-12	-14	-23	-59	-30	-39	-41	-25
2	-23	-13	-13	-14	-16	-16	-18	-28	-18	-14	-13	-20	-23	-17	-15	-13	-14	-14	-14	-14	-19	-20	-18	-17	-18
3	-21	-23	-42	-41	-29	-37	-41	-35	-42	-29	-26	-24	-19	-18	-19	-16	-18	-19	-23	-17	-50	-34	-28	-41	-29
4	-38	-38	-26	-44	-43	-32	-18	-44	-45	-38	-15	-16	-14	-13	-12	-11	-13	-13	-17	-17	-22	-40	-41	-54	-28
5	-36	-44	-50	-42	-29	-16	-31	-27	-18	-27	-20	-14	-12	-12	-17	-19	-16	-14	-33	-27	-24	-31	-38	-40	-27
6	-42	-40	-42	-43	-44	-40	-58	-44	-44	-39	-15	-14	-12	-12	-15	-15	-14	-15	-23	-33	-25	-59	-41	-44	-32
7	-44	-44	-40	-32	-44	-44	-33	-54	-38	-26	-25	-24	-20	-17	-16	-15	-20	-19	-26	-37	-32	-33	-39	-42	-32
8	-53	-27	-16	-18	-30	-15	-16	-15	-19	-22	-20	-19	-23	-27	-19	-17	-18	-16	-17	-27	-22	-22	-22	-22	-22
9	-22	-23	-22	-53	-57	-28	-20	-29	-40	-43	-22	-20		-14	-17	-16	-19	-21	-22	-36	-29	-21	-27	-28	-27
10	-31	-35	-32	-26	-27	-28	-27	-36	-41	-24	-29	-21	-18	-18		-21	-21	-21	-19	-40	-40	-35	-25	-51	-29
11	-33	-39	-24	-32	-37	-33	-55	-24	-29	-29	-32	-15	-13	-14	-13	-16	-18	-20	-22	-20	-34	-40	-39	-29	-28
12	-40	-36	-44	-25	-36	-39	-25	-56	-34	-17	-15	-16	-19	-18	-26	-27	-21	-21	-23	-28	-28	-29	-24	-19	-28
13	-23	-21	-28	-28	-24	-24	-18	-24	-19	-28	-29	-28	-23	-22	-20	-19	-21	-19	-23	-27	-19	-50	-21	-20	-24
14	-18	-19	-17	-23	-19	-26	-43	-32	-33	-28	-27	-17	-14	-15	-16	-16	-15	-17	-16	-16	-16	-26	-59	-30	-23
15	-30	-37	-33	-42	-53	-14	-11	-11	-13	-18	-24	-22	-18	-20	-18	-19	-19	-20	-20	-20	-25	-34	-34	-25	-24
16	-55	-36	-35	-28	-26	-40	-38	-35	-39	-38	-28	-27	-24	-29	-17	-14	-15	-15	-14	-14	-15	-18	-18	-21	-27
17	-17	-17	-18	-26	-23	-32	-37	-55	-30	-54	-23	-15	-17	-17	-17	-17	-17	-19	-18	-21	-29	-26	-18	-19	-24
18	-21	-23	-16	-18	-27	-24	-31	-26	-27	-24	-23	-18	-22	-20	-17	-18	-18	-18	-17	-15	-14	-56	-23	-41	-23
19	-21	-27	-34	-42	-17	-27	-29	-36	-34	-11	-18	-16	-18	-21	-17	-17	-18	-19	-18	-18	-23	-34	-34	-59	-25
20	-36	-40	-35	-42	-33	-55	-31	-34	-26	-31	-21	-18	-22	-23	-16	-22	-20	-21	-21	-20	-24	-23	-25	-24	-28
21	-25	-18	-21	- 9	-10	- 7	-11	-22	-26	-24	-14	-17	-16	-16	-16	-16	-19	-21	-20	-17	- 7	- 9	-11	-17	-17
22	-12	-10	-13	-16	-14	-25	-23	-21	-16	-15	-25	-23	-21	-21	-16	-16	-15	-16	-16	-16	-15	-15	-14	-15	-18
23	-16	-15	-18	-19	-18	-18	-27	-54	-33	-26	-19	-22	-19	-18	-15	-14	-14	-15	-15	-17	-15	-14	-20	-15	-20
24	-14	-14	-12	-12	-12	- 9	-10	-10	- 9	- 9	-10	-11	-12	-12	-13	-12	-11	-12	-19	-25	-21	-20	-18	-16	-15
25	-16	-12	-13	-16	-16	-15	-15	-16	-15	-15	-14	-14	- 9	- 9	-10	- 9	- 9	-10	-10	-15	-40	-51	-19	-29	-17
26	-22	-54	-22	-28	-42	-26	-14	-17	-14	-12	-10	-10	-11	-10	-14	-24	-31	-23	-16	-13	-11	-14	-14	-17	-20
27	-14	-13	-16	-14	-15	-14	-15	-27	-42	-27	-24	-25	-20	-20	-24	-15	-14	-17	-28	-17	-18	-20	-13	-13	-20
28	-13	-12	-20	-21	-18	-16	-15	-17	-50	-17	-16	-14	-15	-16	-18	-13	-15	-15	-14	- 8	-11	-11	-15	-18	-17
MEAN	-27	-27	-26	-28	-27	-26	-26	-29	-29	-26	-22	-20	-19	-19	-18	-18	-18	-18	-20	-22	-24	-27	-27	-28	

TOTAL NUMBER OF OBSERVATIONS = 8009 MEAN = -24.

: INDICATES CALIBRATION DURING THE HOUR

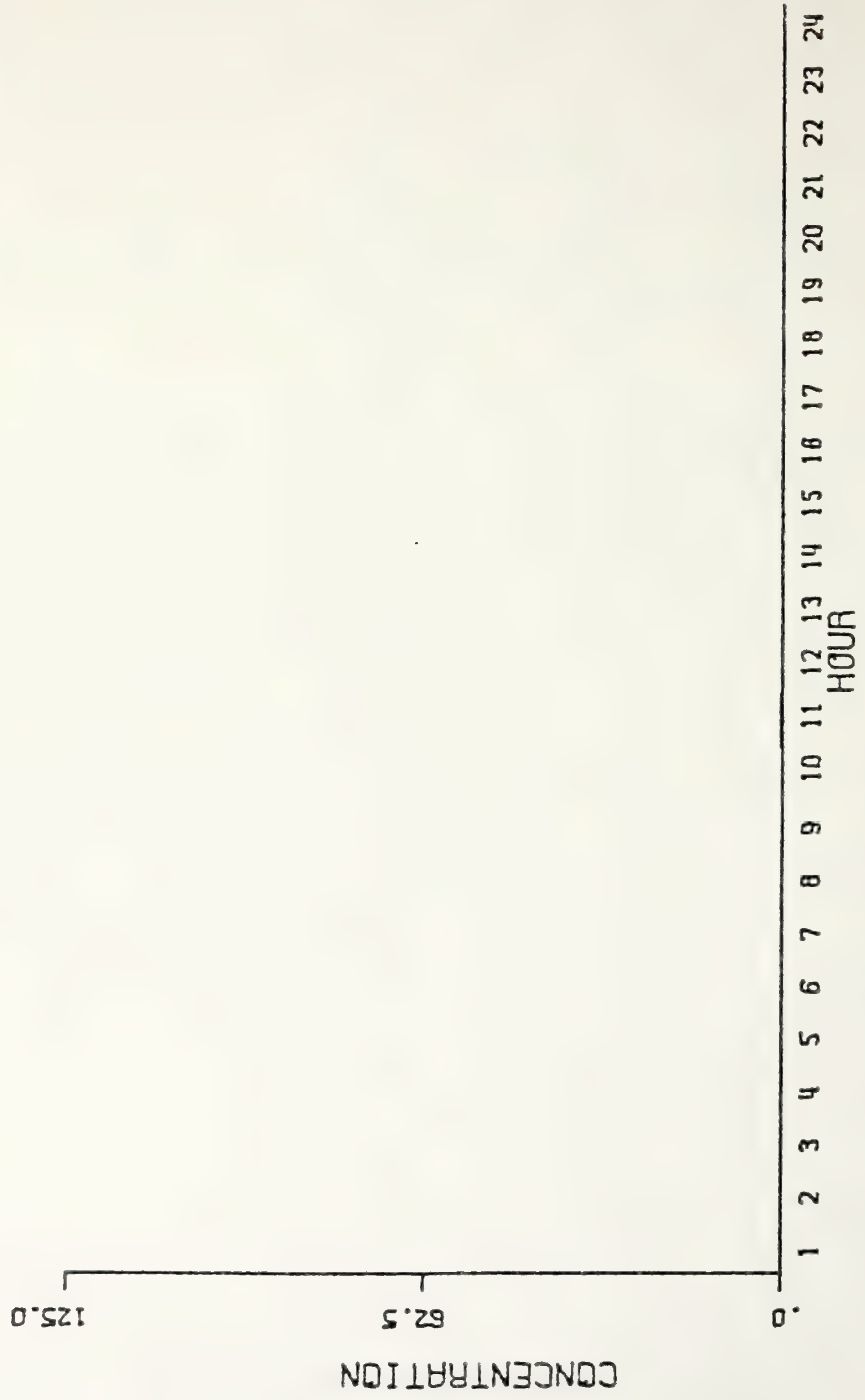
DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 200 FEET
TRAILER NO. - 23 PERIOD(2/ 1/77 TO 2/28/77)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	-4	-6	-7	-4	-7	-5	-6	-3	-6	-3	0	-5	8	0	-12	-9	-5	-7	-9	-14	-16	-28	-22	-7	-8
2	-10	-12	-13	-13	-14	-13	-16	-19	-15	-11	-7	-7	-5	-2	-5	-4	-3	-4	-4	-4	-2	-2	-7	-7	-10
3	-4	-3	0	-2	-7	-14	-22	-29	-29	-12	0	-2	-5	-2	-3	-5	-6	-3	-3	-8	-4	-1	0	5	-8
4	7	0	0	6	0	-1	-3	0	0	3	-5	-5	-6	-7	-5	-5	-9	-9	-5	-10	-6	0	0	0	-3
5	-1	0	-3	7	0	-9	-5	-2	-5	-3	-2	-9	-8	-10	-11	-3	-11	-12	-1	-7	-3	-1	5	0	-5
6	2	3	4	2	0	0	-1	0	-1	0	-5	-9	-8	-8	-6	-9	-7	-10	-3	0	0	-2	0	0	-3
7	0	8	0	-1	4	2	2	-1	0	0	-5	-5	-6	-8	-10	-6	-11	-8	-2	8	9	0	4	5	-1
8	8	-1	-5	-5	-1	-5	-15	-10	-11	-8	-1	0	-4	0	-2	-1	-5	-1	10	1	2	-4	-6	-3	-3
9	0	0	15	15	10	2	7	6	6	9	0	-1		8	4	5	-2	-4	-2	1	2	0	5	4	3
10	2	5	17	10	0	0	0	1	8	3	0	-2	-1	-1		-3	0	-4	-2	4	21	4	0	1	2
11	6	4	0	5	6	8	8	0	0	2	3	0	-3	0	-4	-5	-5	-3	-1	-2	-1	-4	-11	-15	-0
12	-37	-21	-18	-19	-29	-23	-20	-23	-12	-8	-1	-5	-2	-1	-6	3	-3	-7	-5	-1	-2	-1	-2	-5	-11
13	-1	-3	1	2	-3	-3	-6	-3	-7	-3	1	-2	7	-3	-2	-4	-6	-5	-7	-7	-3	0	0	-3	-3
14	-4	-3	-5	-4	-6	-11	-33	-22	-12	-4	-4	0	-3	-4	-4	-5	-5	-4	-6	-7	-3	-4	0	-3	-8
15	-2	1	3	3	-1	-7	-8	-7	-8	-10	0	0	-6	-6	-8	-10	-11	-13	-15	-15	-12	-7	-6	0	-7
16	-2	-6	-3	-2	-4	2	1	-5	-14	-12	-1	-6	5	-3	-6	-7	-9	-8	-6	0	0	0	-2	-4	-5
17	-7	-6	-4	0	2	4	0	-1	-4	4	-2	0	-4	-4	-4	-3	-1	0	0	7	0	-3	-3	-6	-2
18	-3	-3	-3	0	5	3	2	4	2	8	-3	-3	0	-1	1	20	27	31	47	19	0	11	5	6	7
19	-2	0	0	1	0	0	0	0	0	-2	-2	-4	-2	-2	-2	-5	-5	2	0	-6	-5	-1	0	8	-1
20	-3	3	-1	0	3	2	2	3	-1	-4	4	-5	-4	-4	0	-4	-3	-5	3	-4	-4	-3	-2	-1	-2
21	0	-3	-2	-5	-5	-6	-5	0	0	0	-3	-5	-3	-3	-4	-4	-5	-3	-3	-4	-5	-4	-3	-1	-4
22	-2	-2	1	-7	-7	-16	-12	-8	-7	-6	-17	-11	-8	-9	-5	-4	-5	-4	-4	-4	-5	-4	-5	-4	-7
23	-4	-3	-4	-4	-4	-5	-3	-2	-3	0	-2	-4	-1	-6	-5	-5	-5	-5	-5	-5	-5	-5	-3	-6	-5
24	-6	-6	-6	-5	-4	-4	-5	-3	-3	-5	-5	-4	-5	-3	-4	-4	-4	-4	-1	0	-2	0	-3	-3	-5
25	-5	-5	-7	-6	-7	-5	-5	-6	-4	-4	-4	-4	-4	-4	-5	-4	-5	-4	-5	-2	0	0	-1	0	-5
26	-2	0	-2	0	0	-5	-6	-7	-6	-6	-7	-6	-7	-3	-6	-14	-3	-5	0	-5	-5	-4	-5	-4	-6
27	-5	-5	-3	-4	-5	-6	-7	-10	-25	-6	-5	-2	-3	0	-2	-1	-3	-5	-2	-7	-8	-6	-6	-7	-6
28	-8	-7	-6	-5	-7	-6	-7	-6	0	-6	-4	-4	-5	-5	-6	-3	-8	-7	-7	-7	-7	-9	-6	-6	-7
MEAN	-4	-3	-2	-2	-3	-5	-6	-6	-6	-3	-3	-5	-4	-4	-5	-4	-5	-5	-2	-3	-3	-4	-3	-2	

TOTAL NUMBER OF OBSERVATIONS = 1978 MEAN = -4.

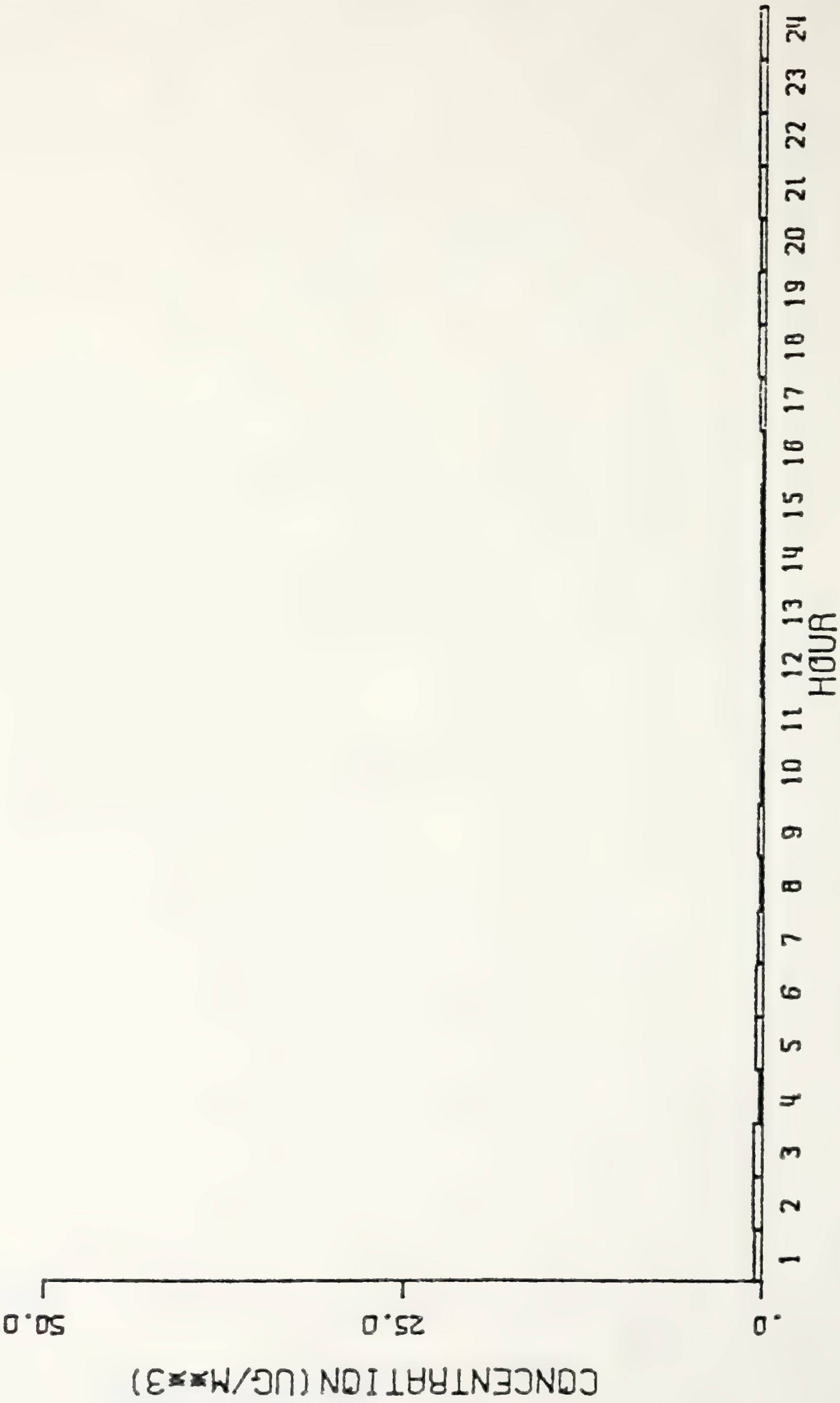
: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN OXIDES(UG/M**3)
SITE - 23

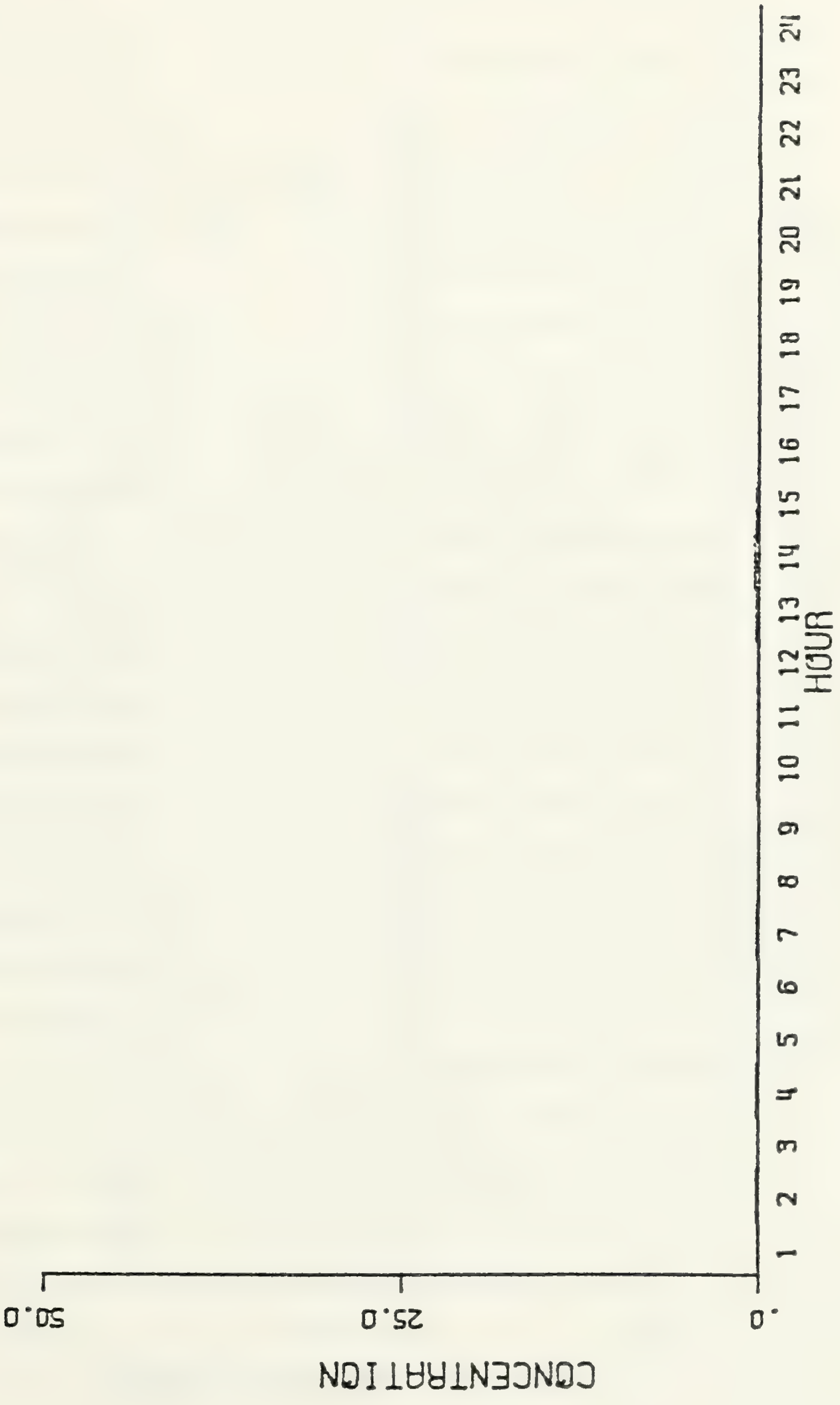


DIURNAL VARIATION OF NITRIC OXIDE (UG/M**3)
SITE - 23

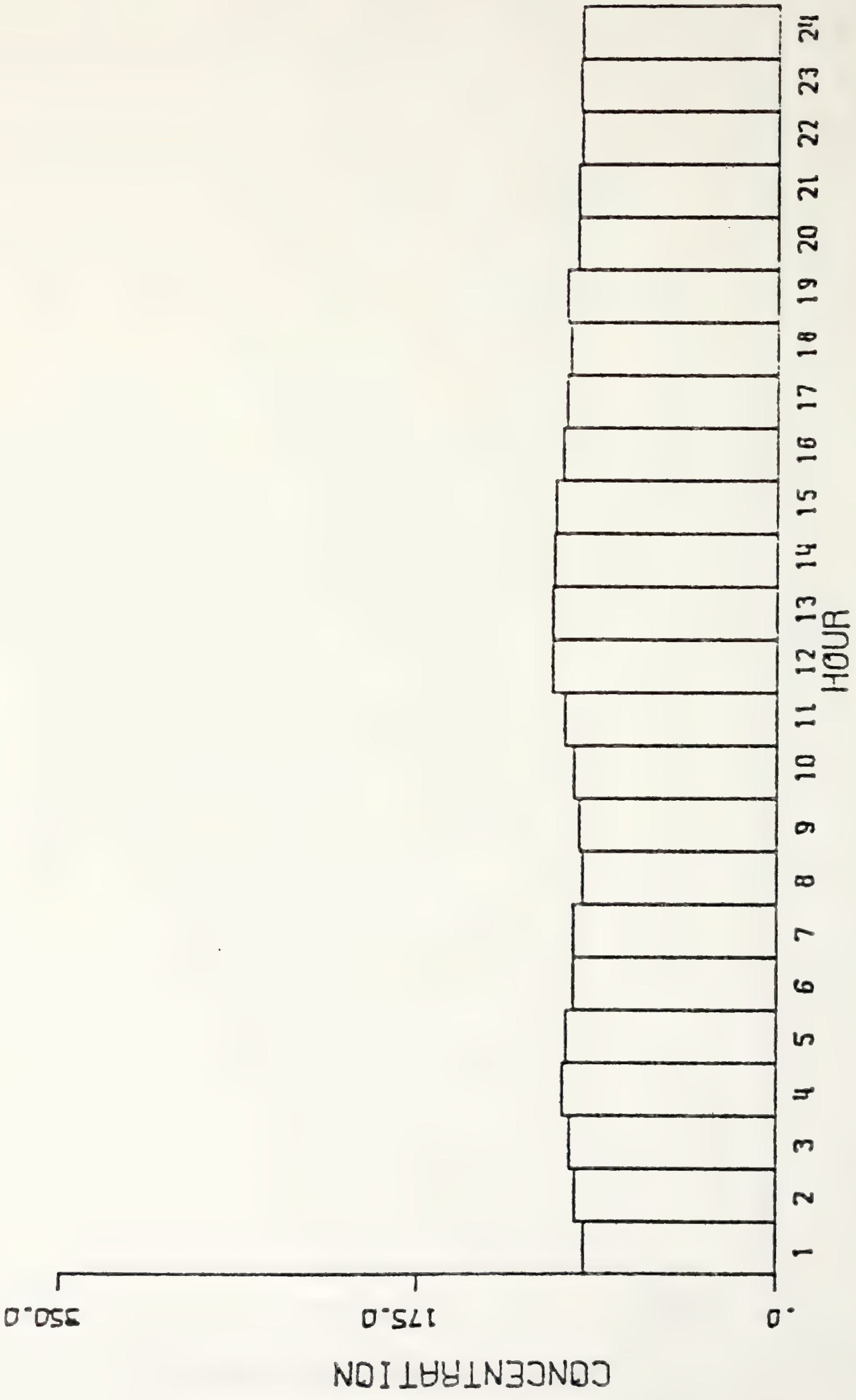
DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M**3)
SITE - 23



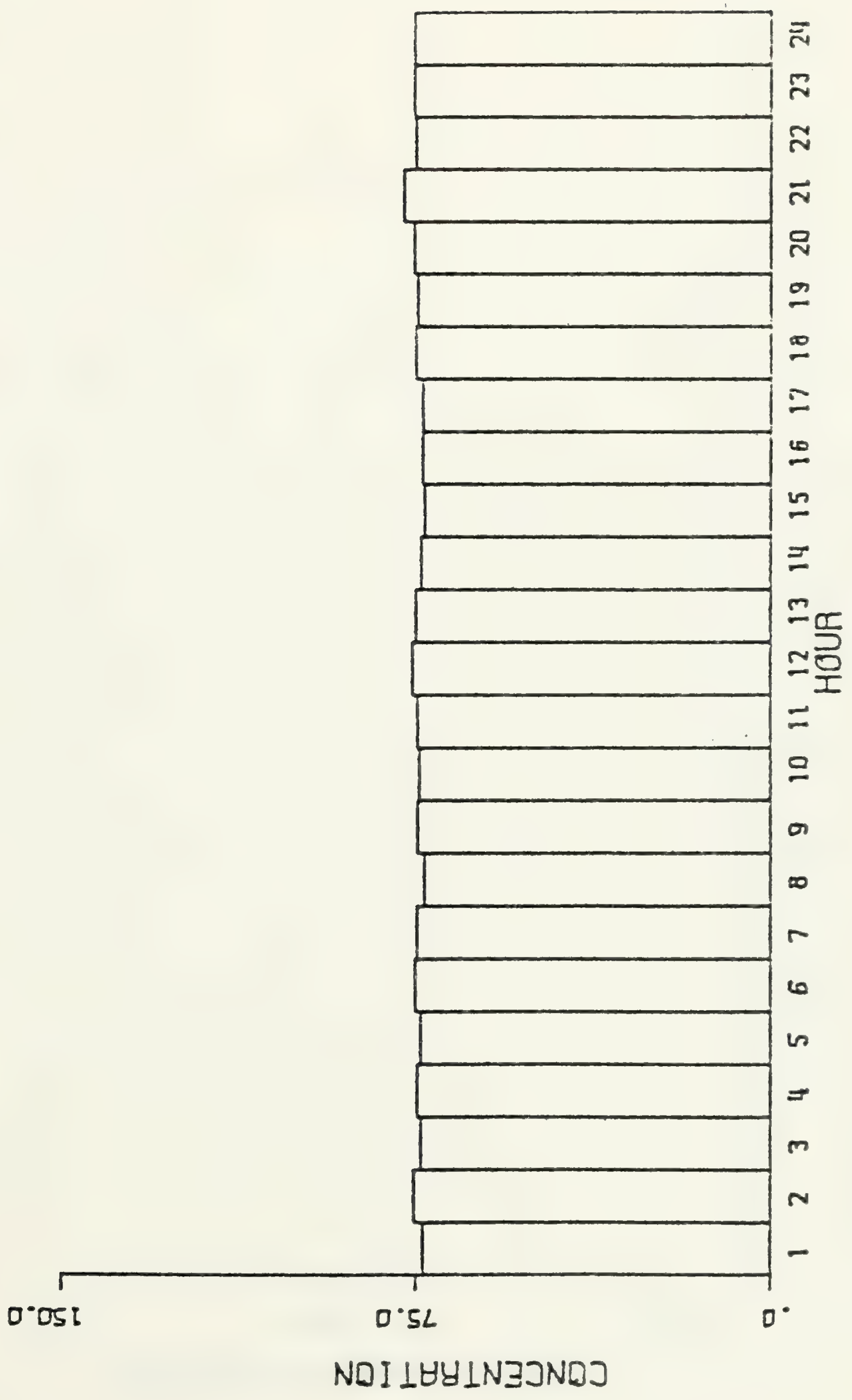
DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M**3)
SITE - 23



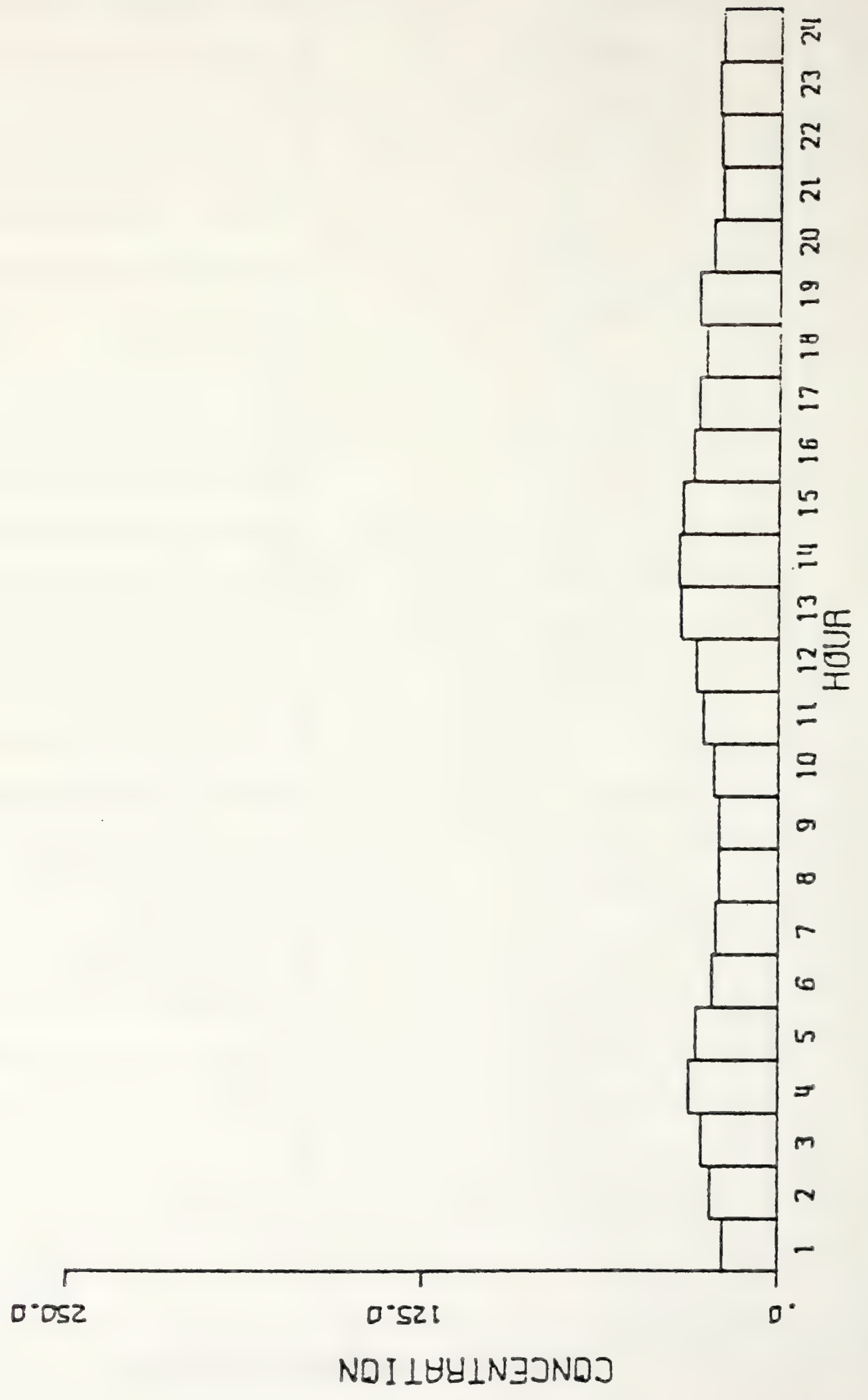
DIURNAL VARIATION OF HYDROGEN SULFIDE (UG/M**3)
SITE - 23



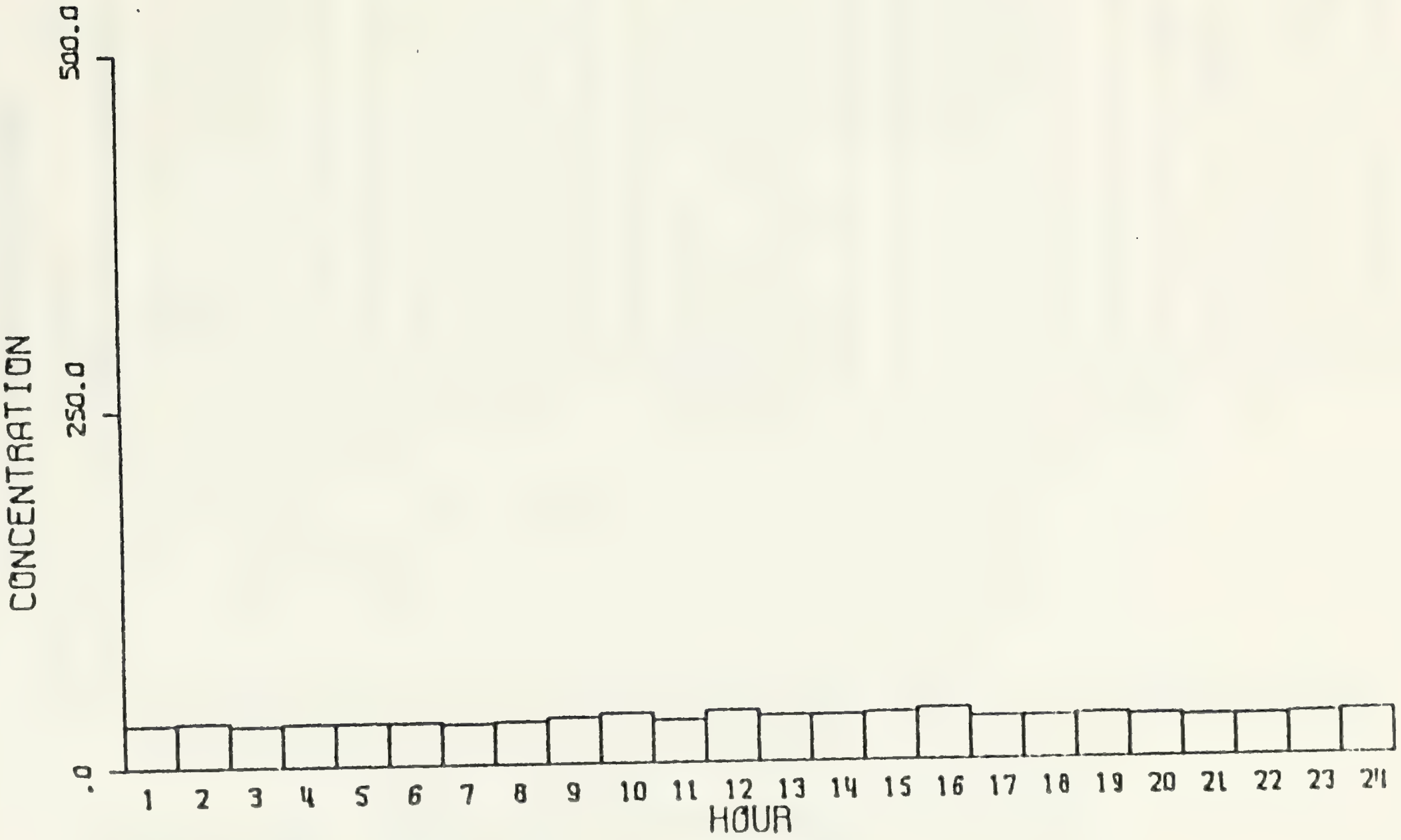
DIURNAL VARIATION OF TOTAL HYDROCARBONS (UG/M**3 X 10**-1)
SITE - 23



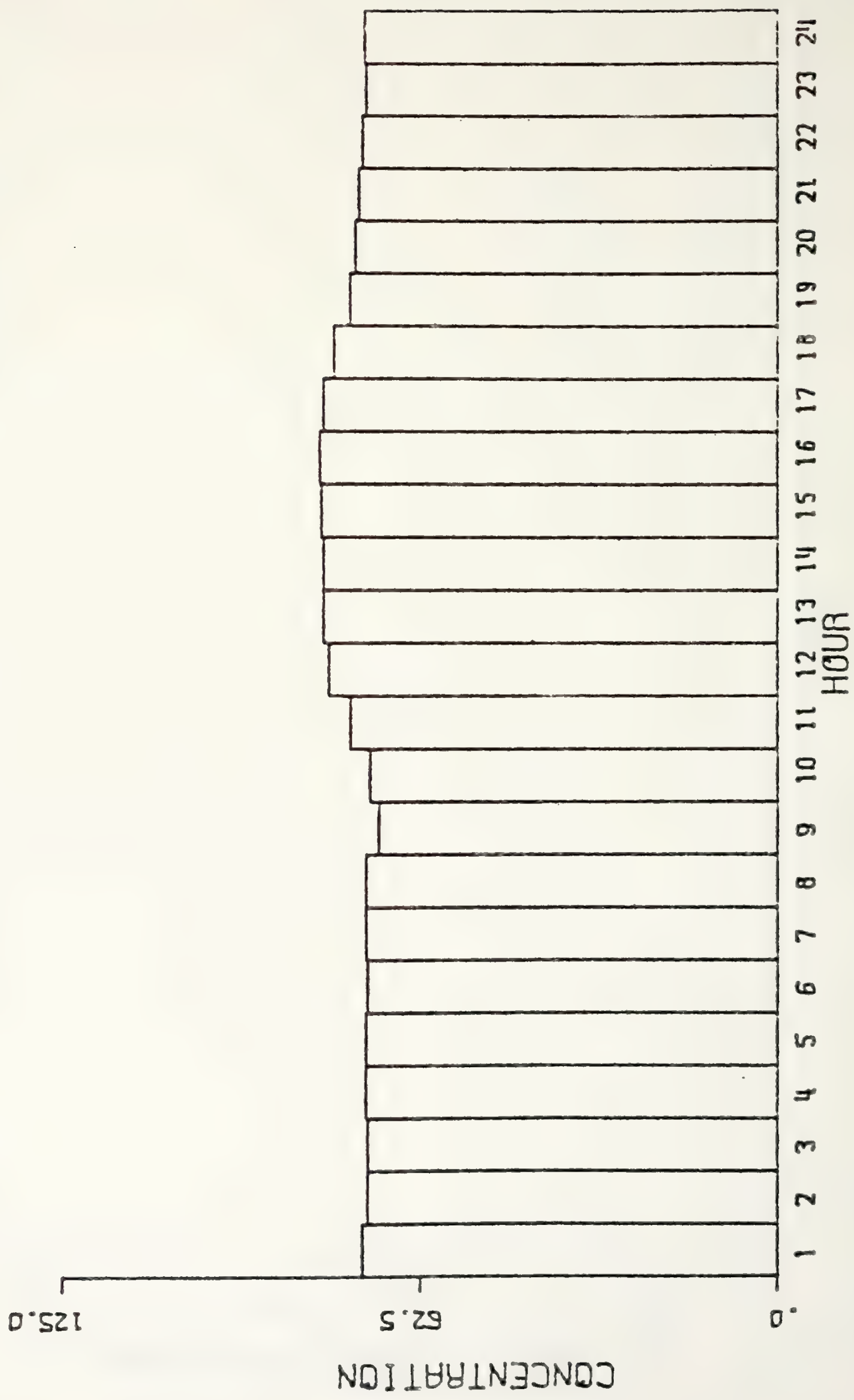
DIURNAL VARIATION OF METHANE (UG/M**3 X 10**-1)
SITE - 23



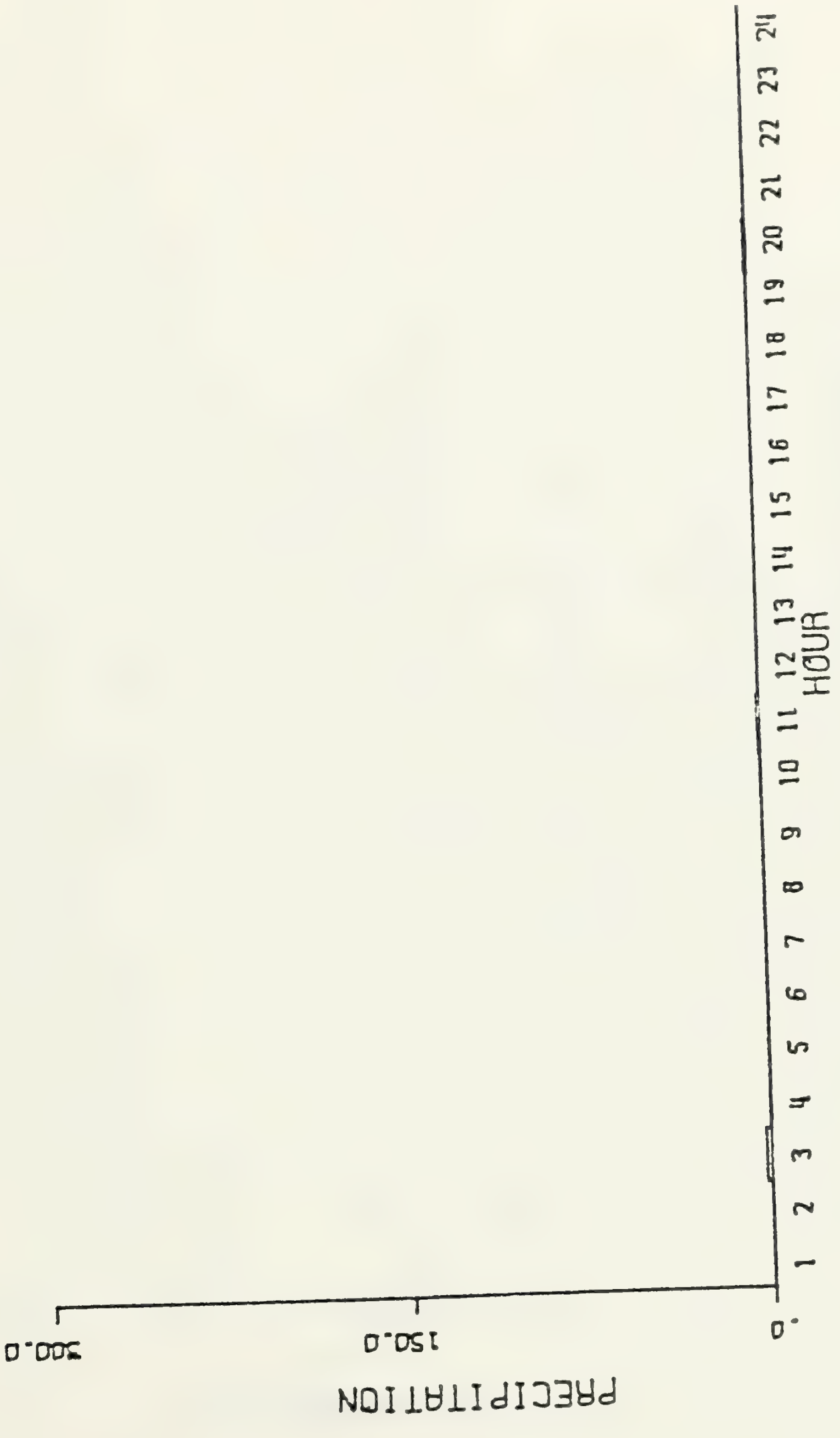
DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M**3 X 10**-1)
SITE - 23



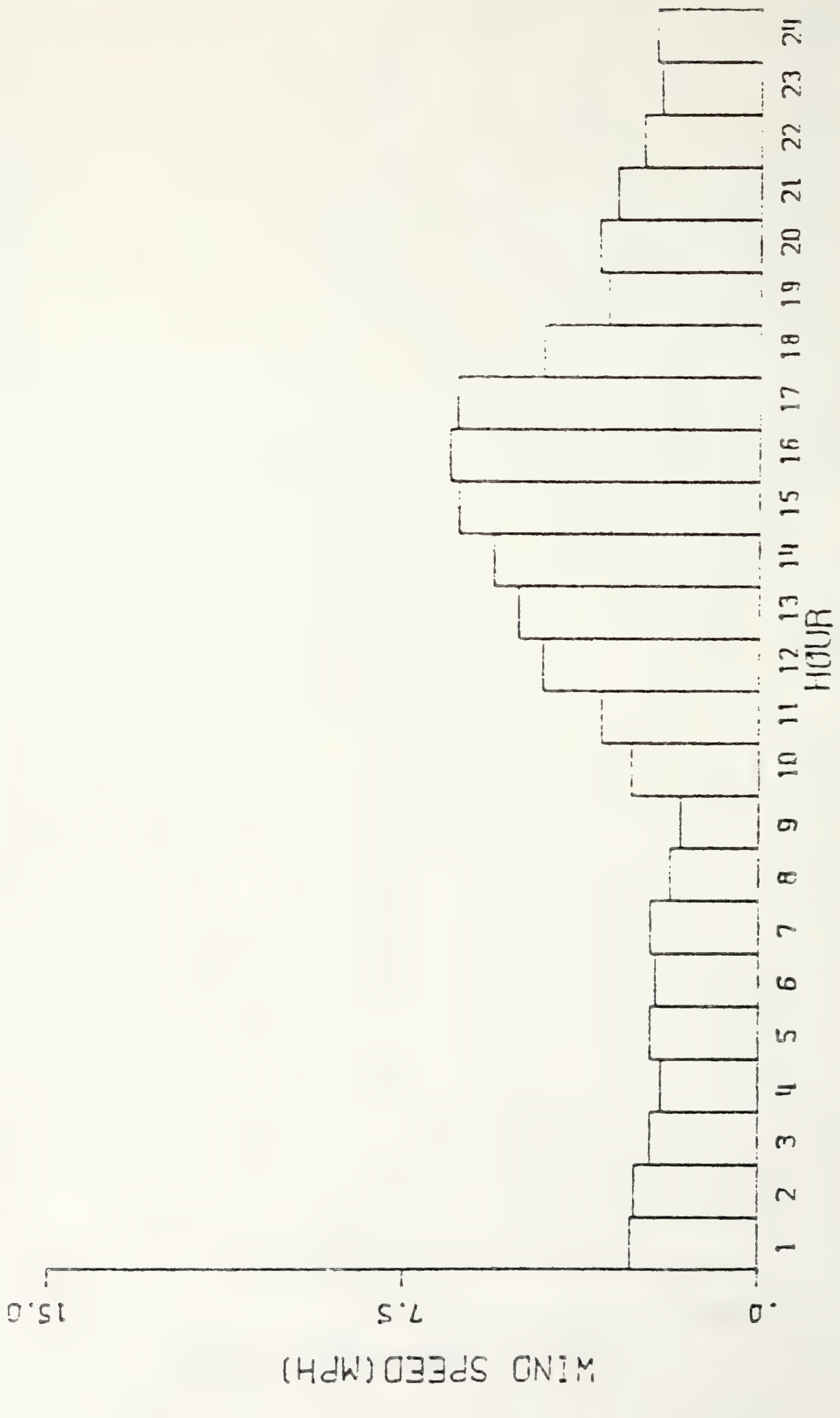
DIURNAL VARIATION OF CARBON MONOXIDE(UG/M**3 X 10**-1)
SITE - 23



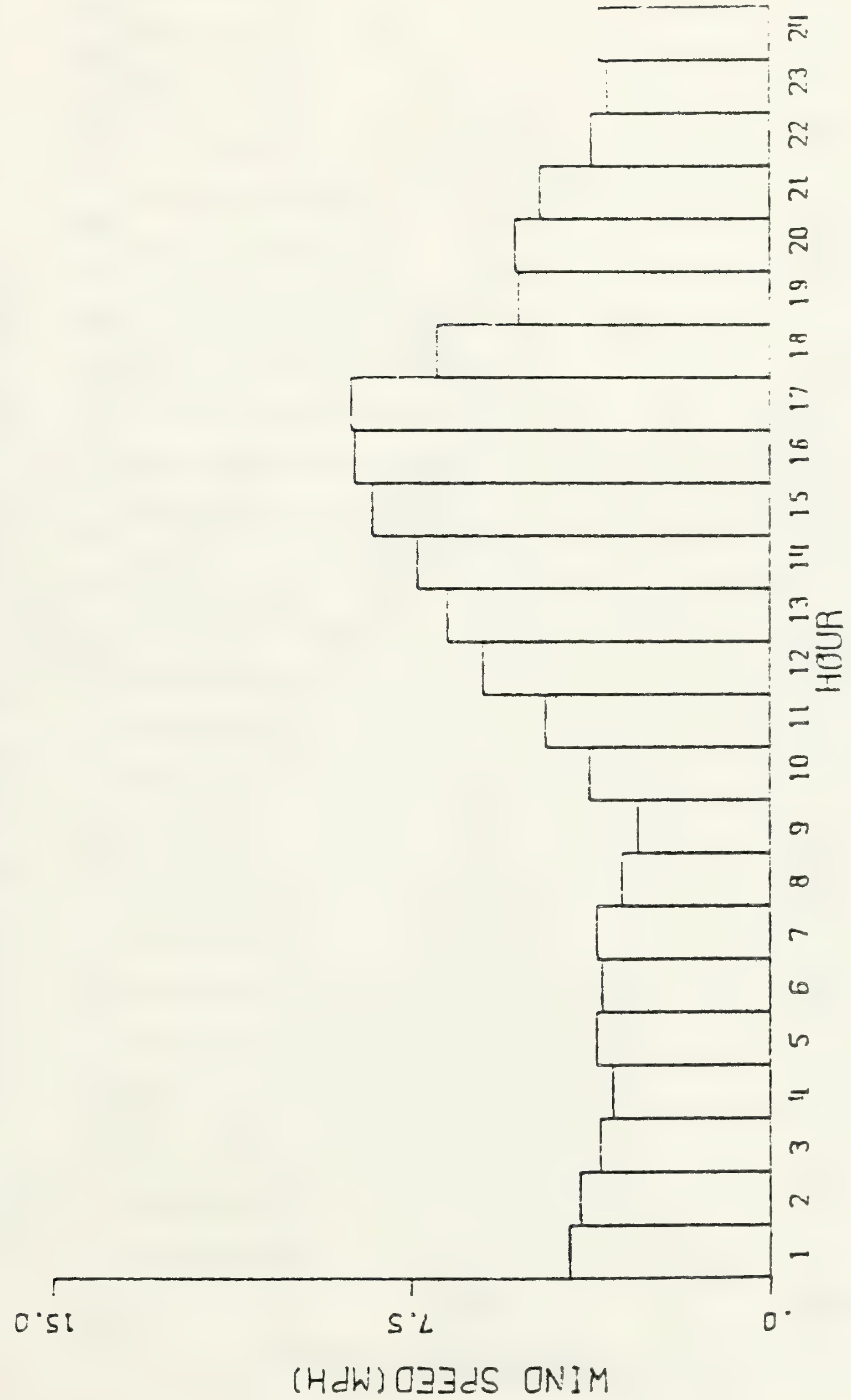
DIURNAL VARIATION OF OZONE (UG/M**3)
SITE - 23



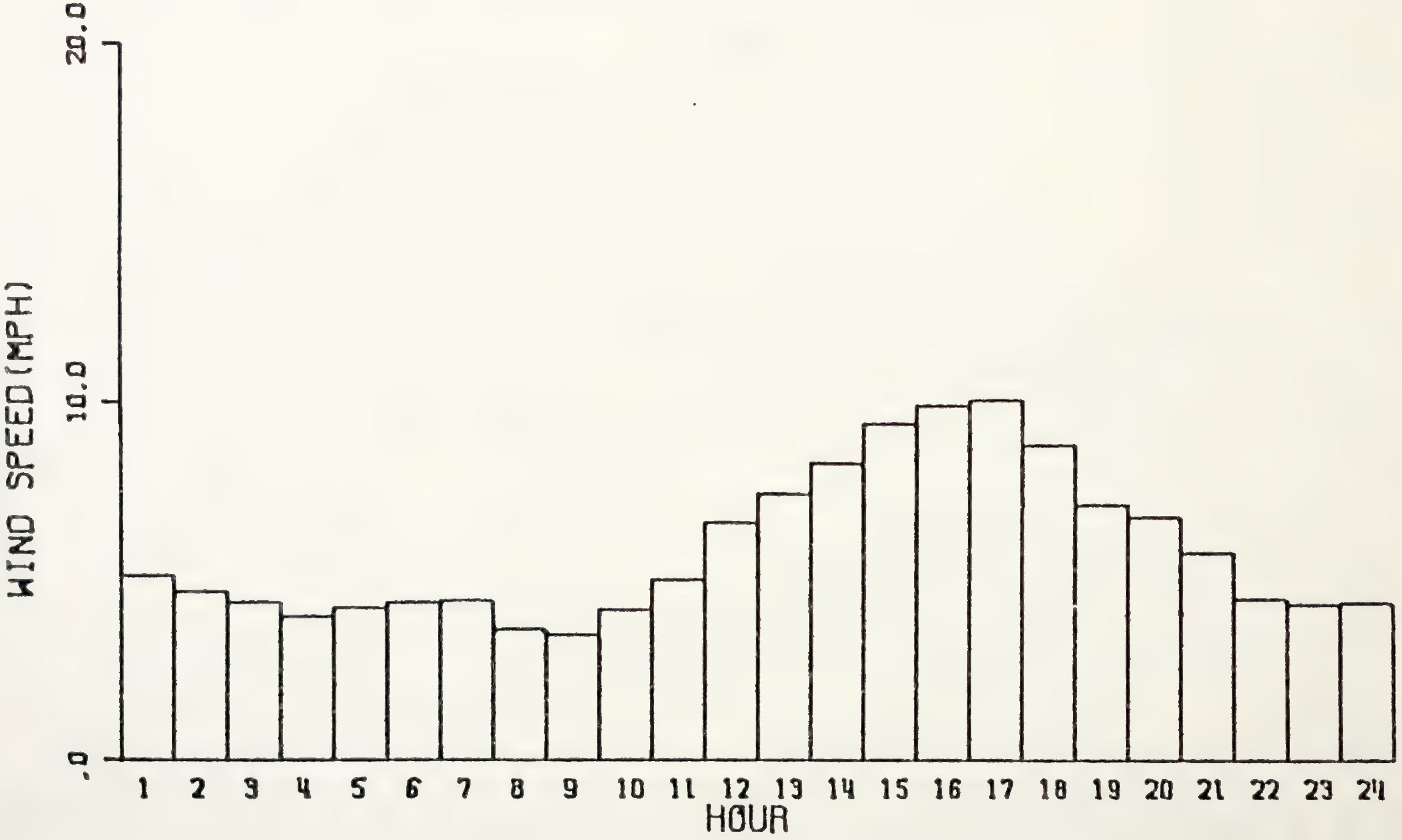
HOURLY TOTAL PRECIPITATION(HUNDREDTHS OF INCHES)
SITE - 23



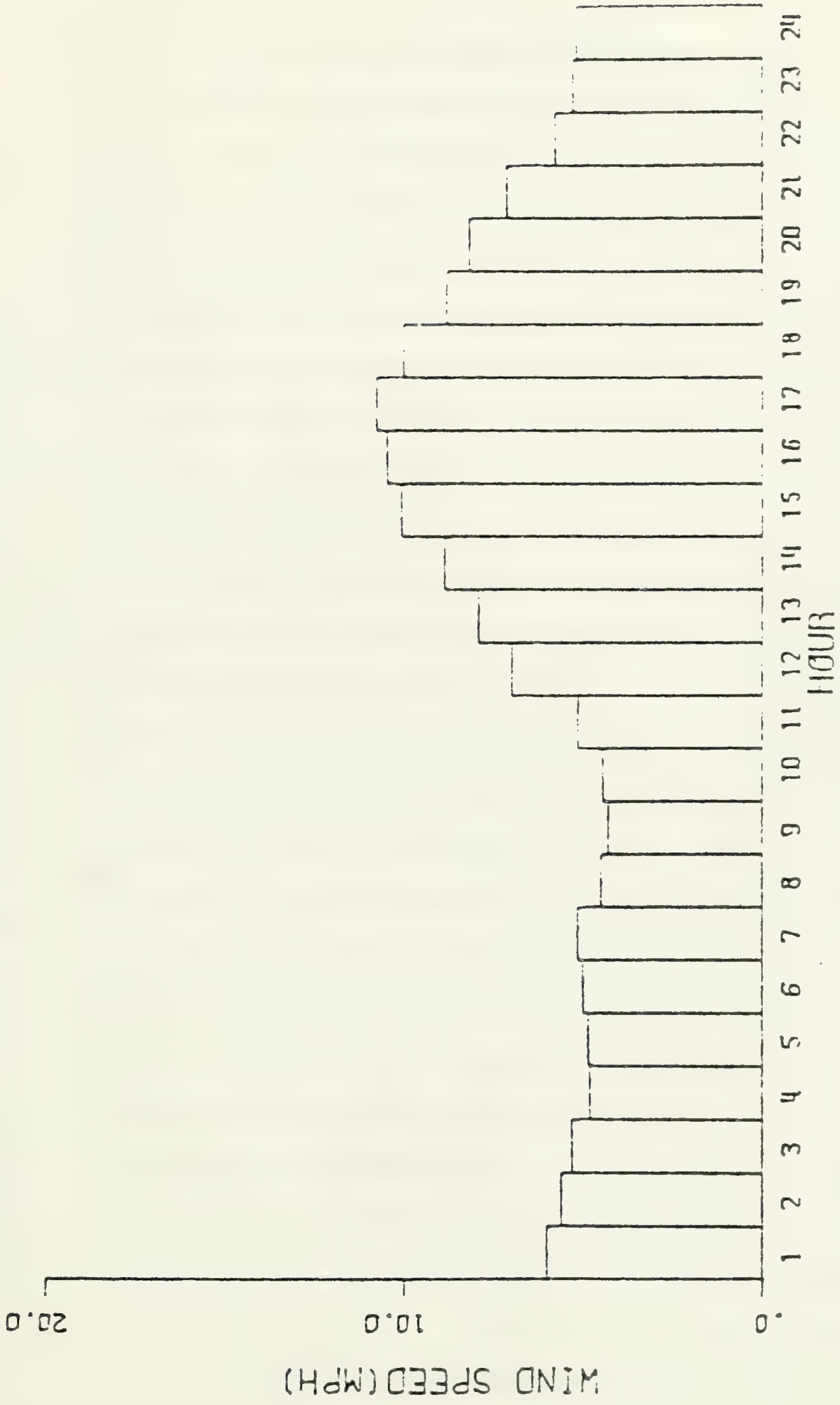
DIURNAL VARIATION OF WIND SPEED AT 8 FEET (MPH)
SITE - 23



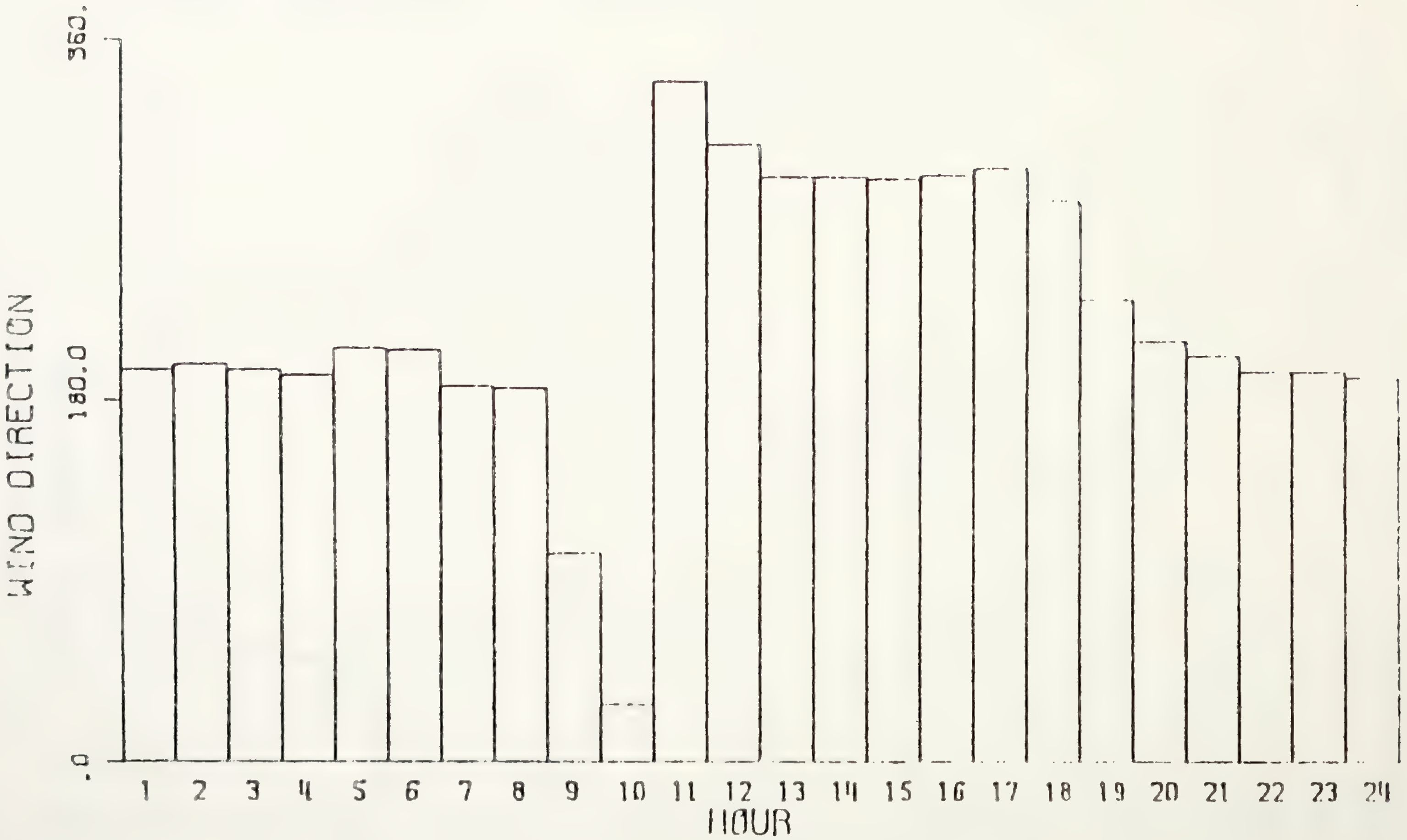
DIURNAL VARIATION OF WIND SPEED AT 30 FEET (MPH)
SITE - 23



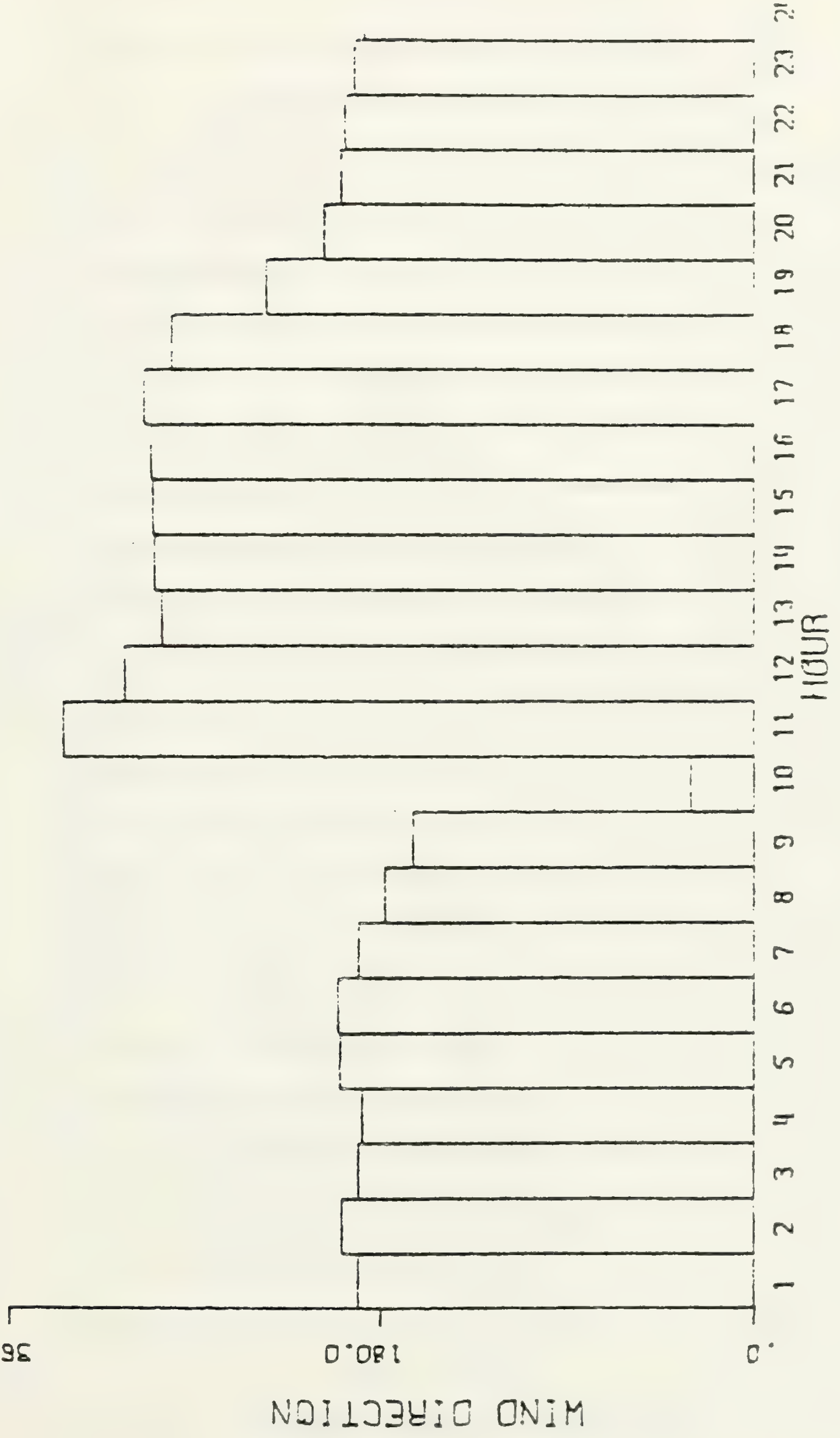
DIURNAL VARIATION OF WIND SPEED AT 100 FEET (MPH)
SITE - 23



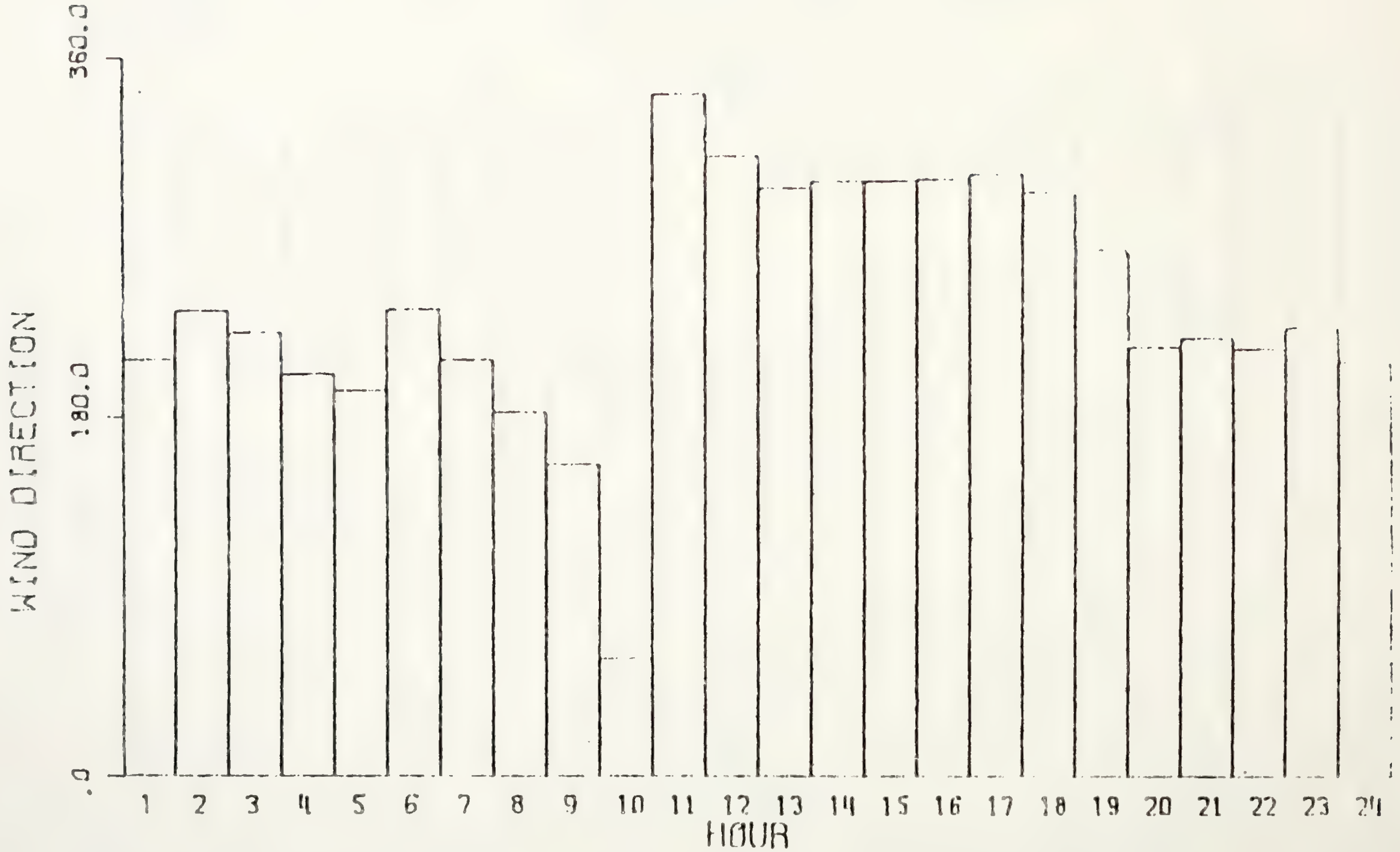
DIURNAL VARIATION OF WIND SPEED AT 200 FEET (MPH)
SITE - 23



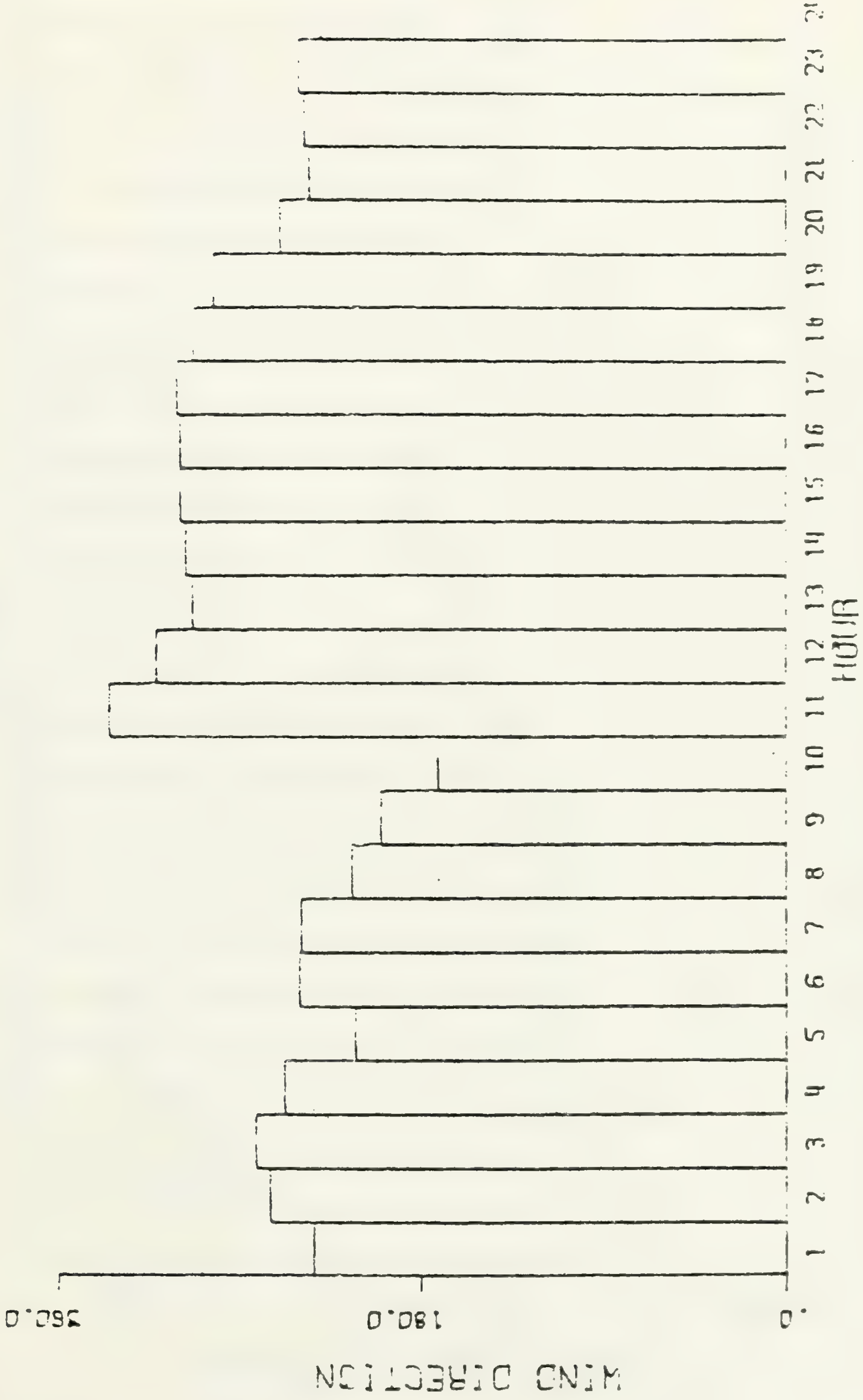
DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET
SITE - 23



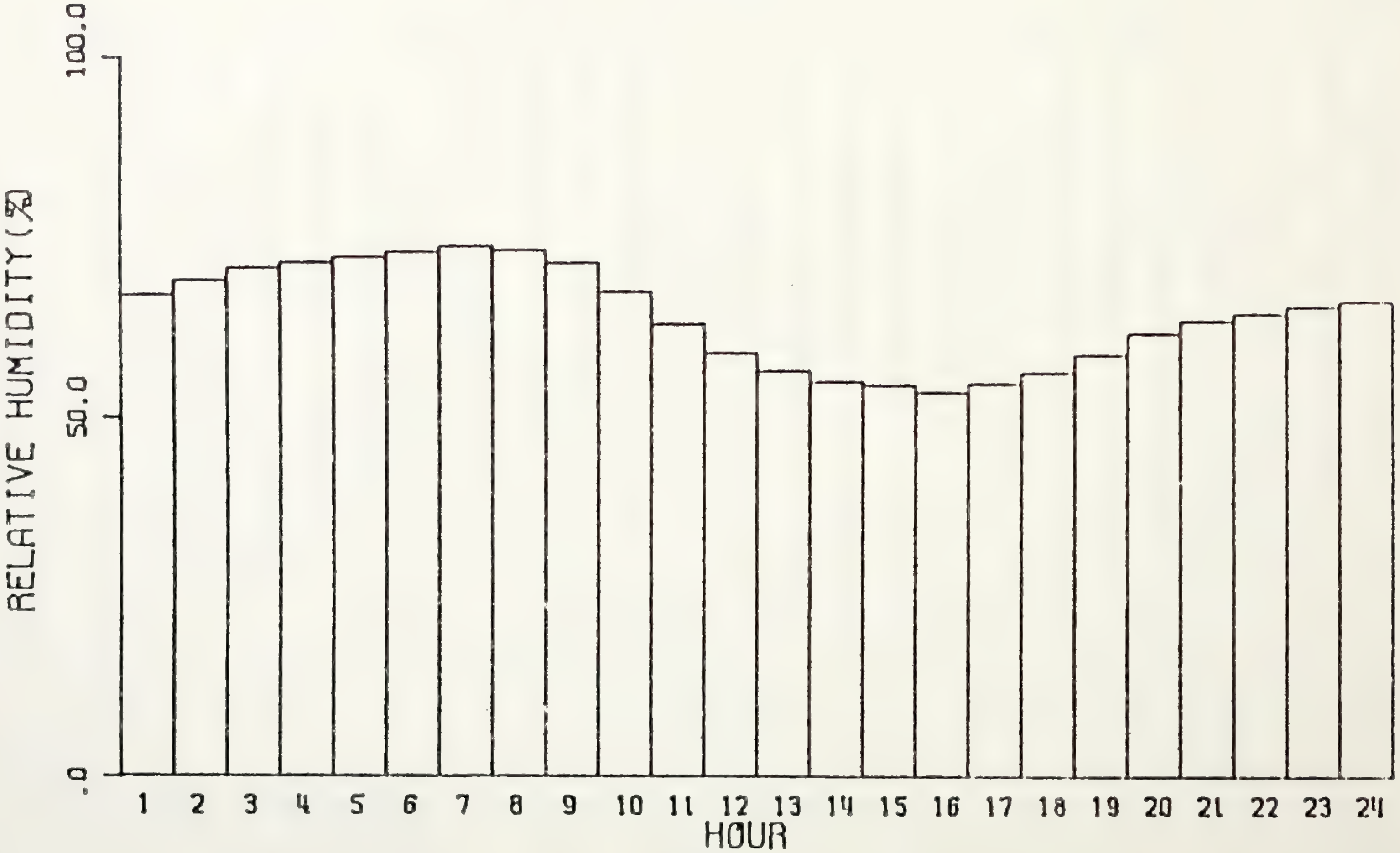
DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET
SITE - 23



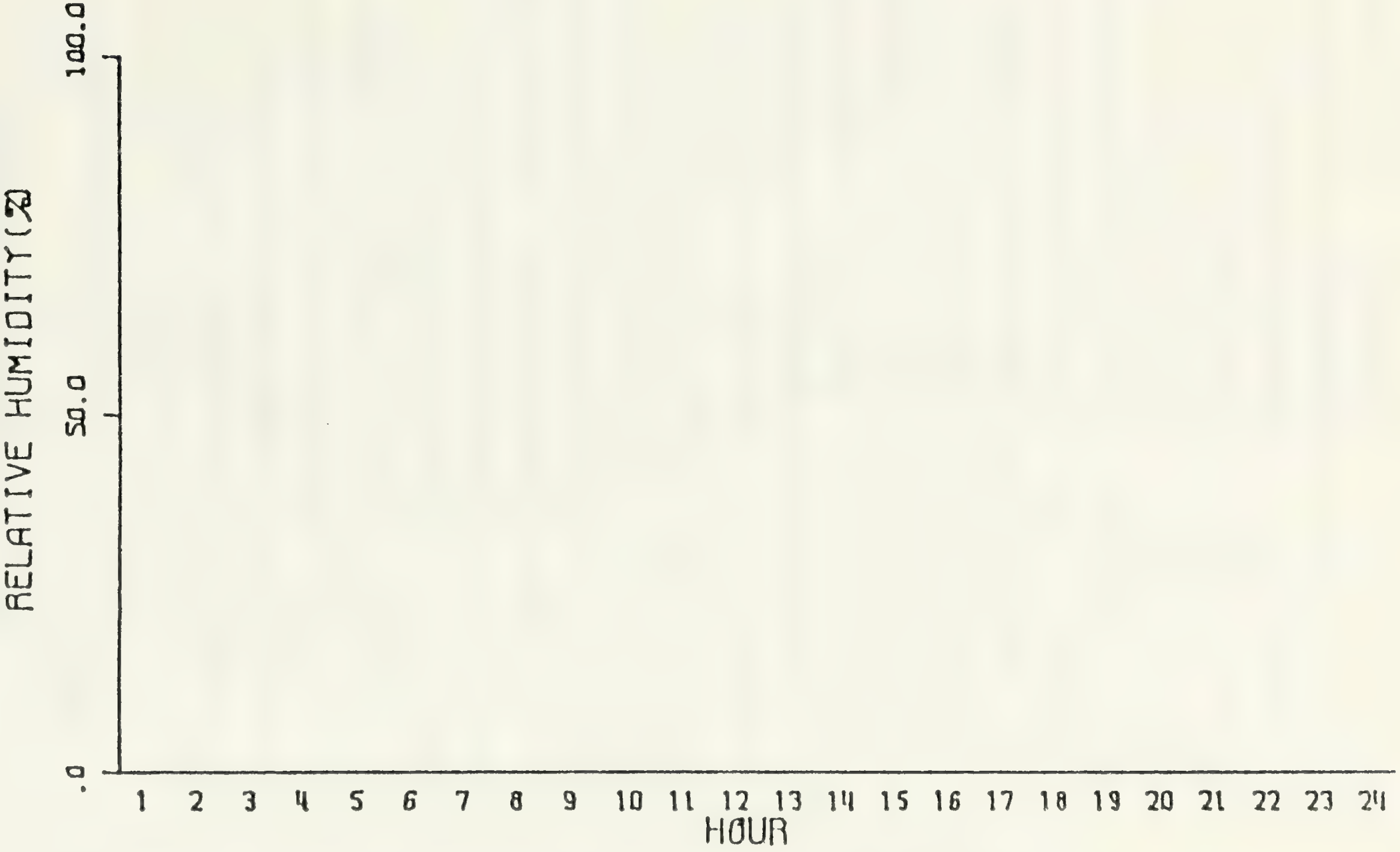
DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET
SITE - 23



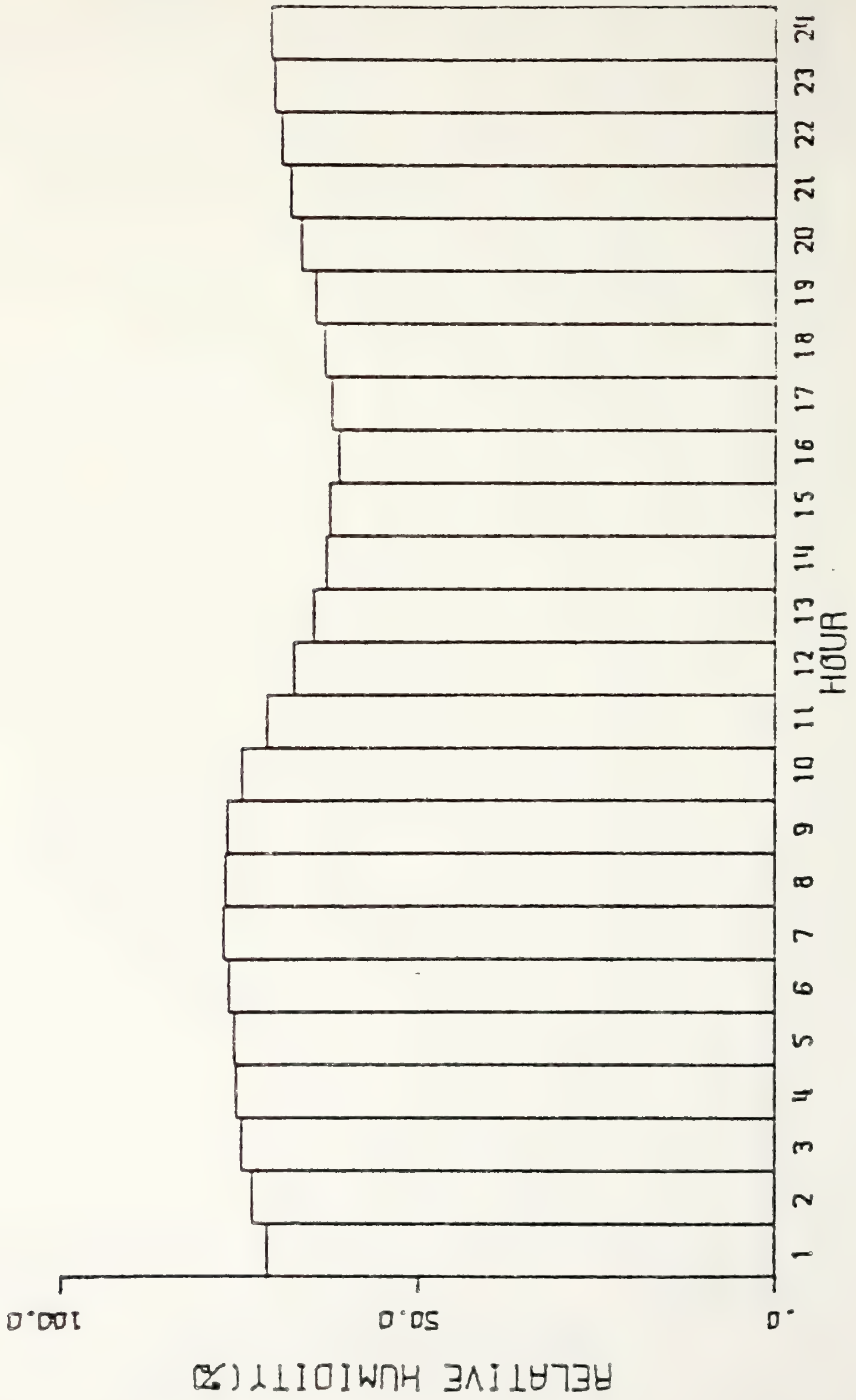
DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET
SITE: 23



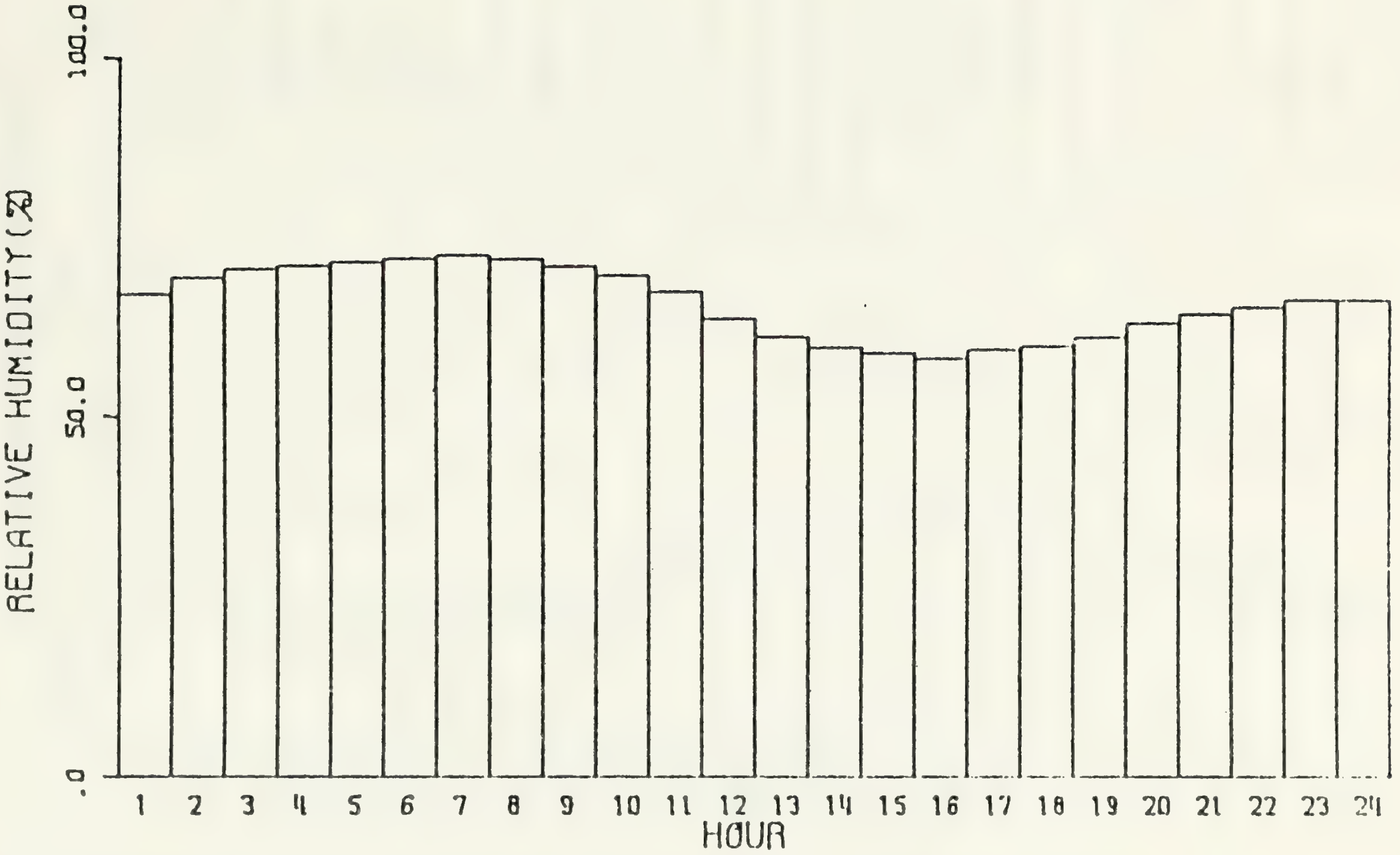
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET
SITE - 23



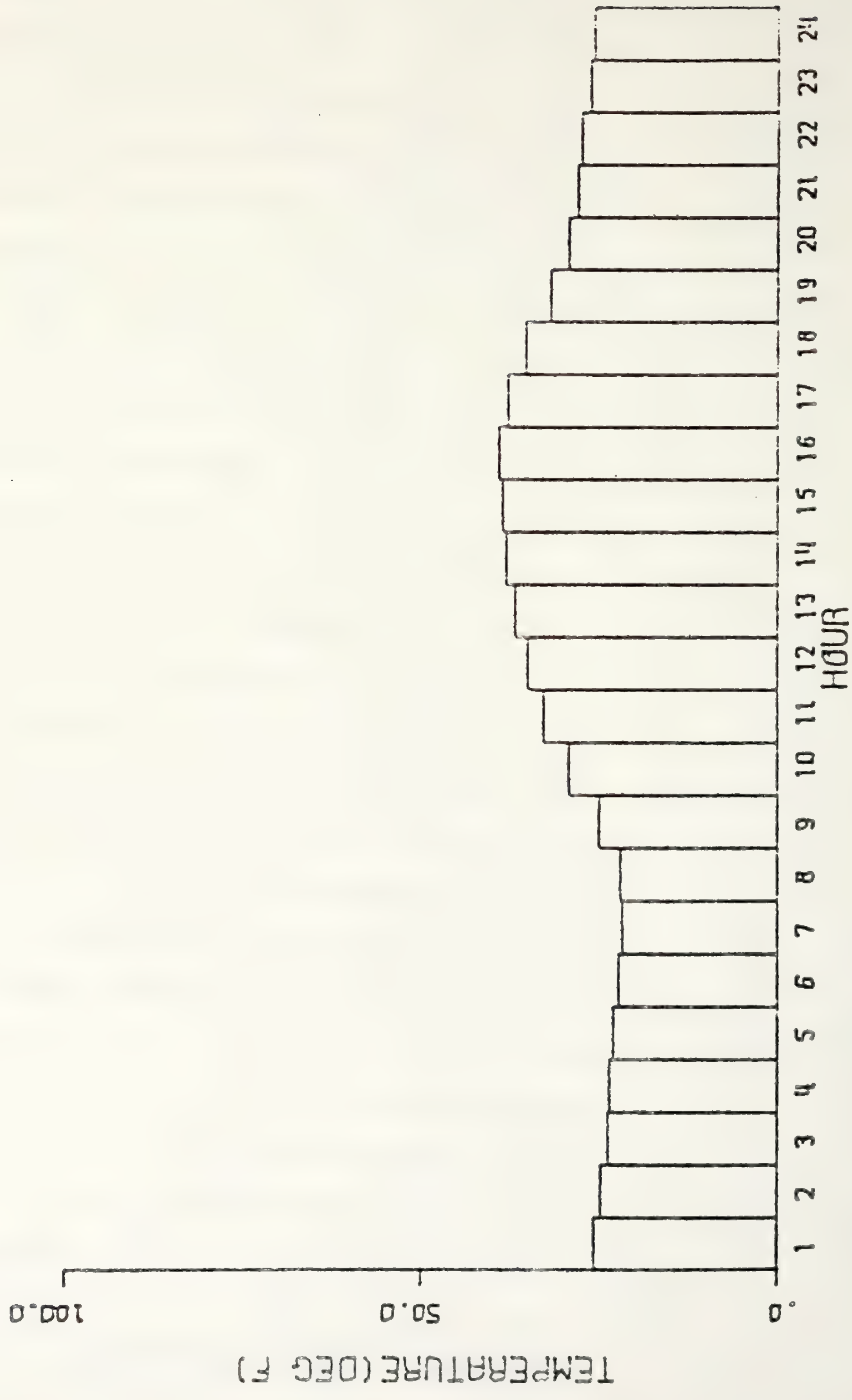
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET
SITE - 23



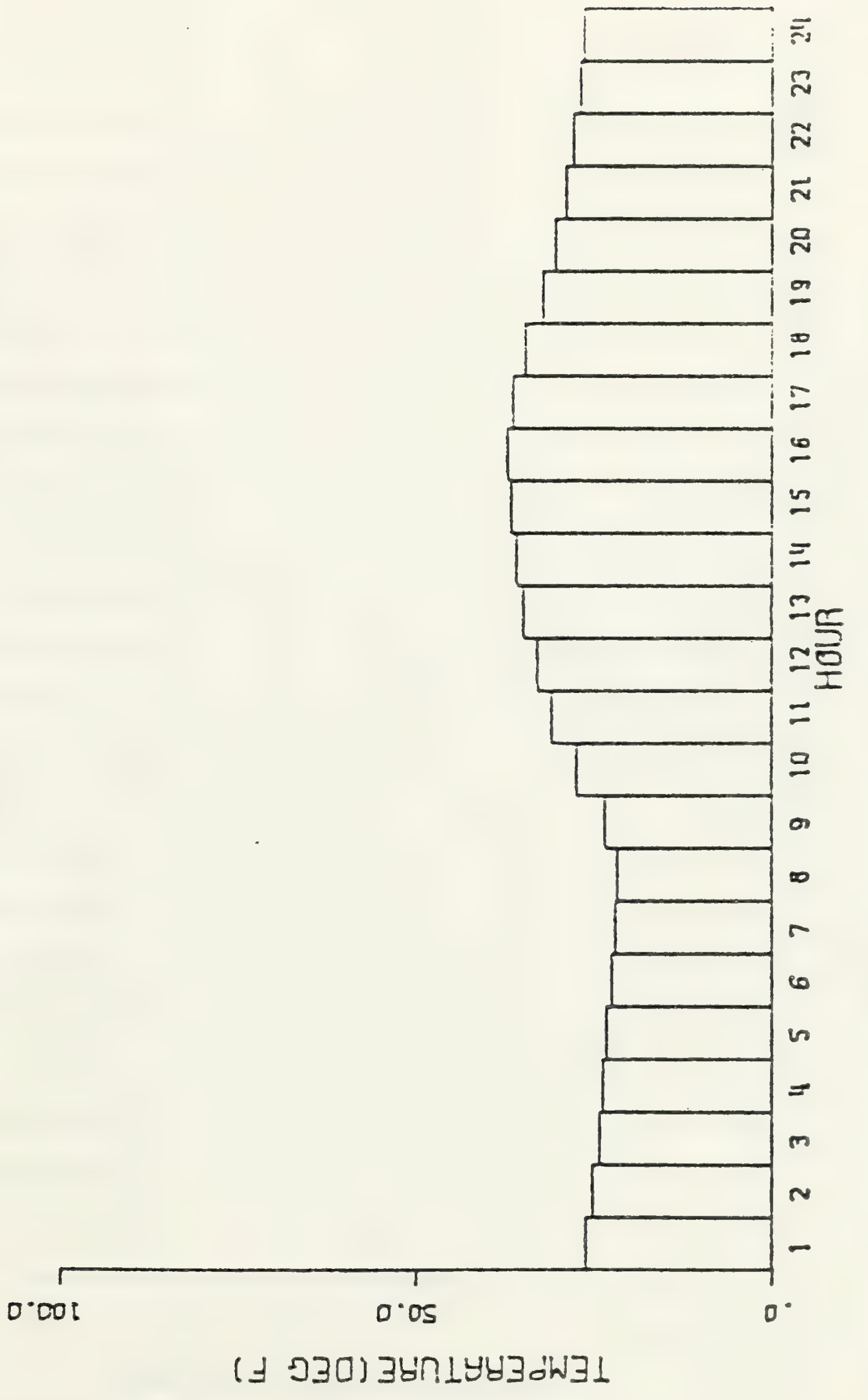
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET
SITE - 23



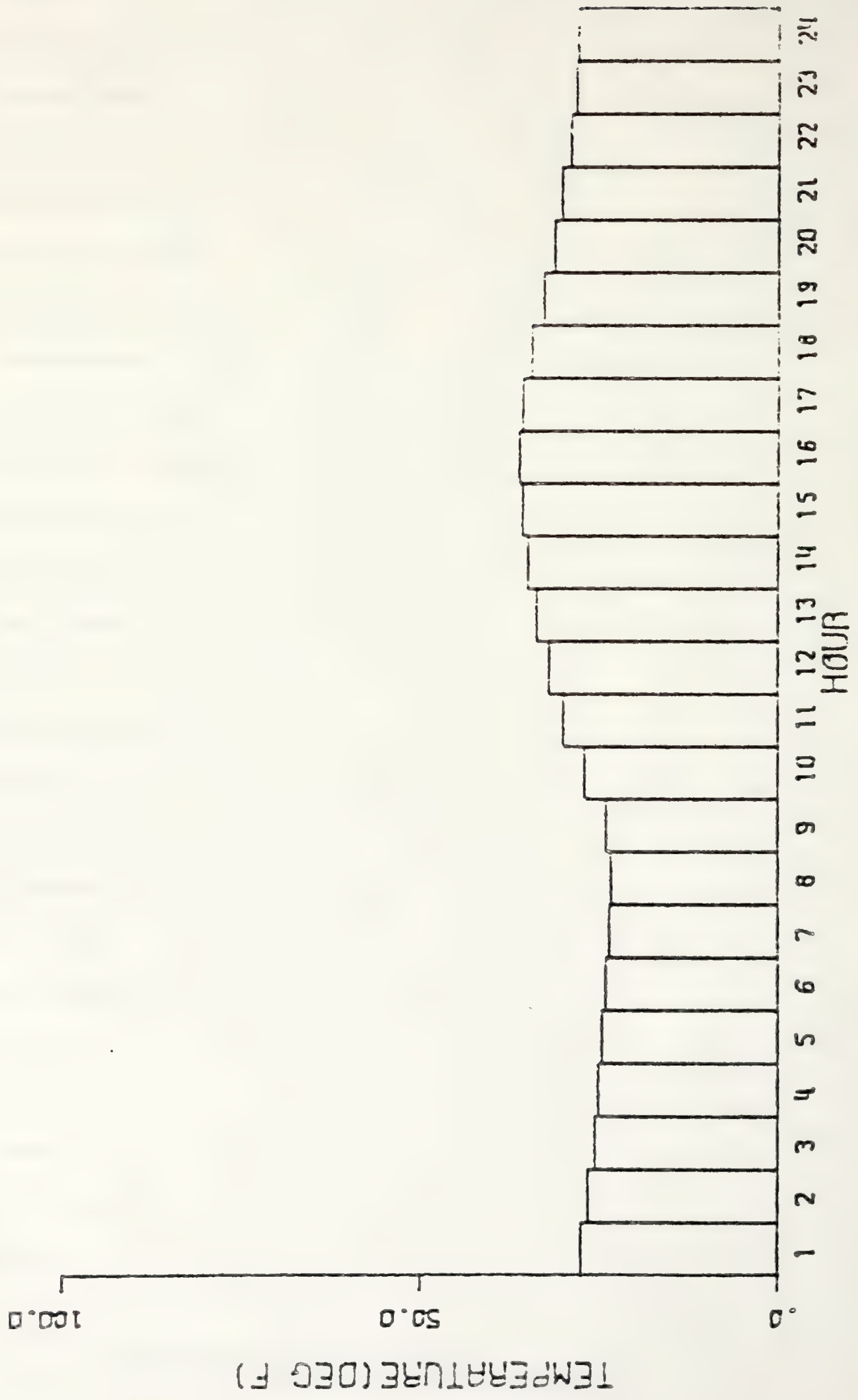
DIURNAL VARRAITON OF RELATIVE HUMIDITY AT 200 FEET
SITE - 23



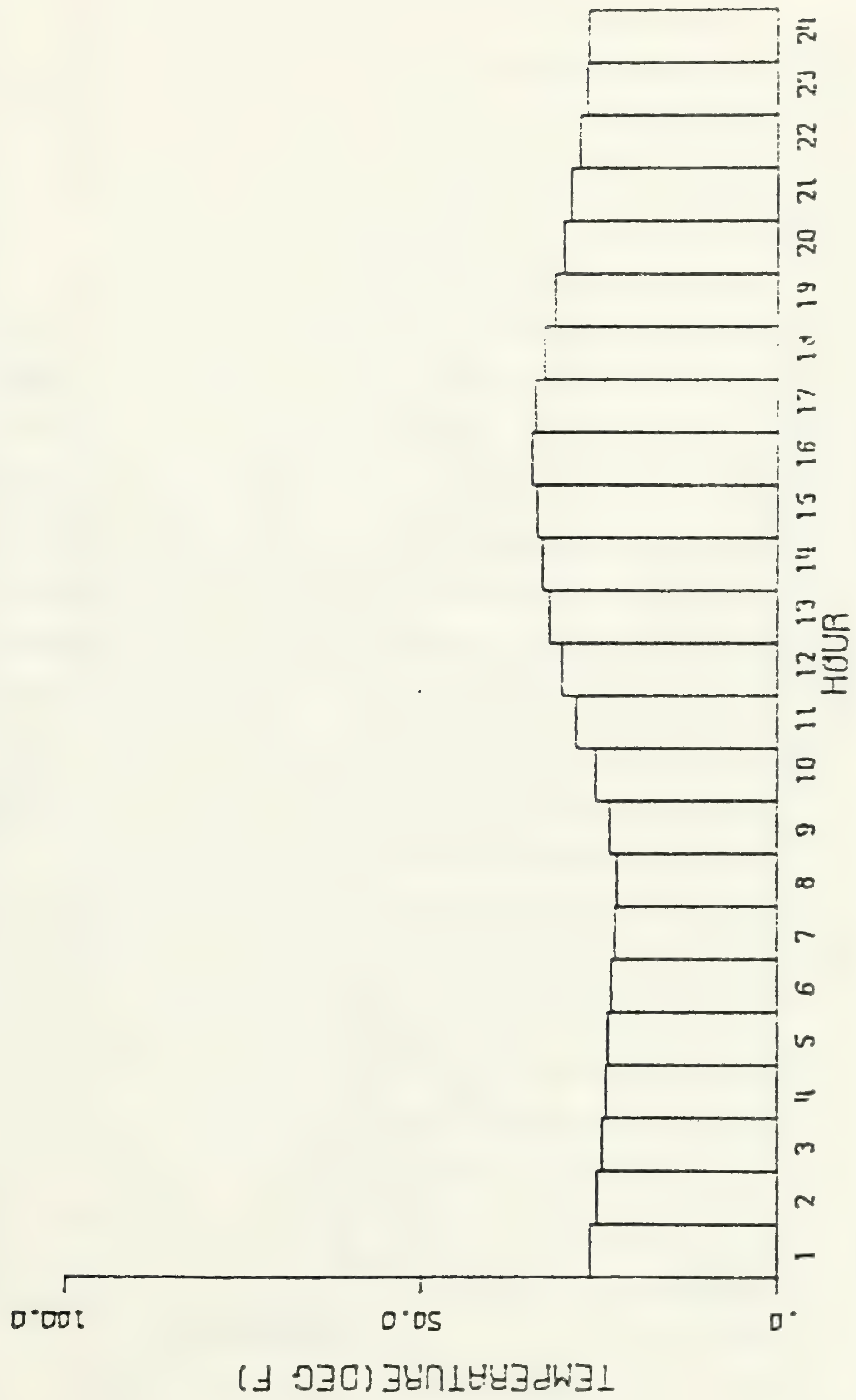
DIURNAL VARIATION OF TEMPERATURE AT 8 FEET (DEG F)
SITE - 23



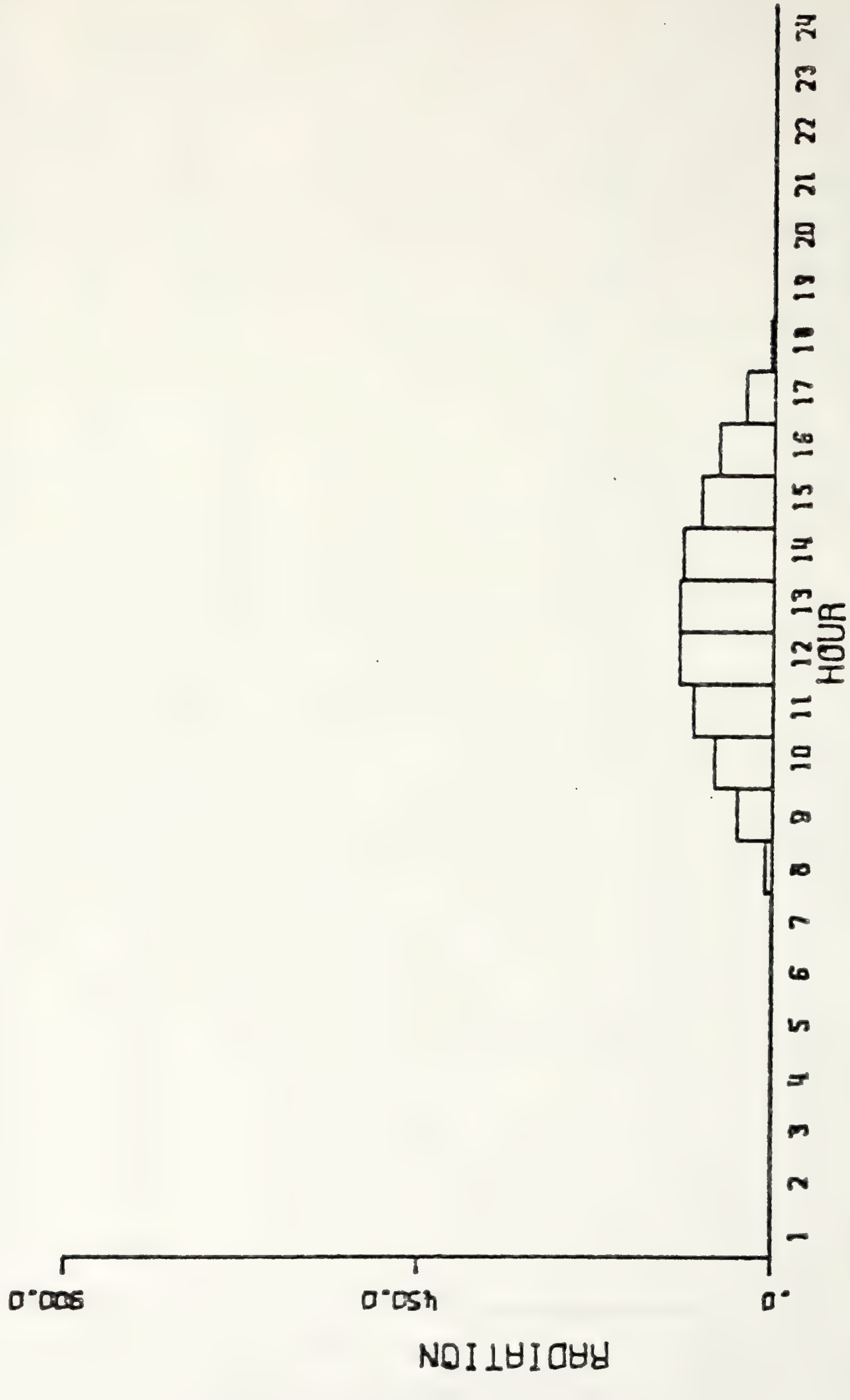
DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)
SITE - 23



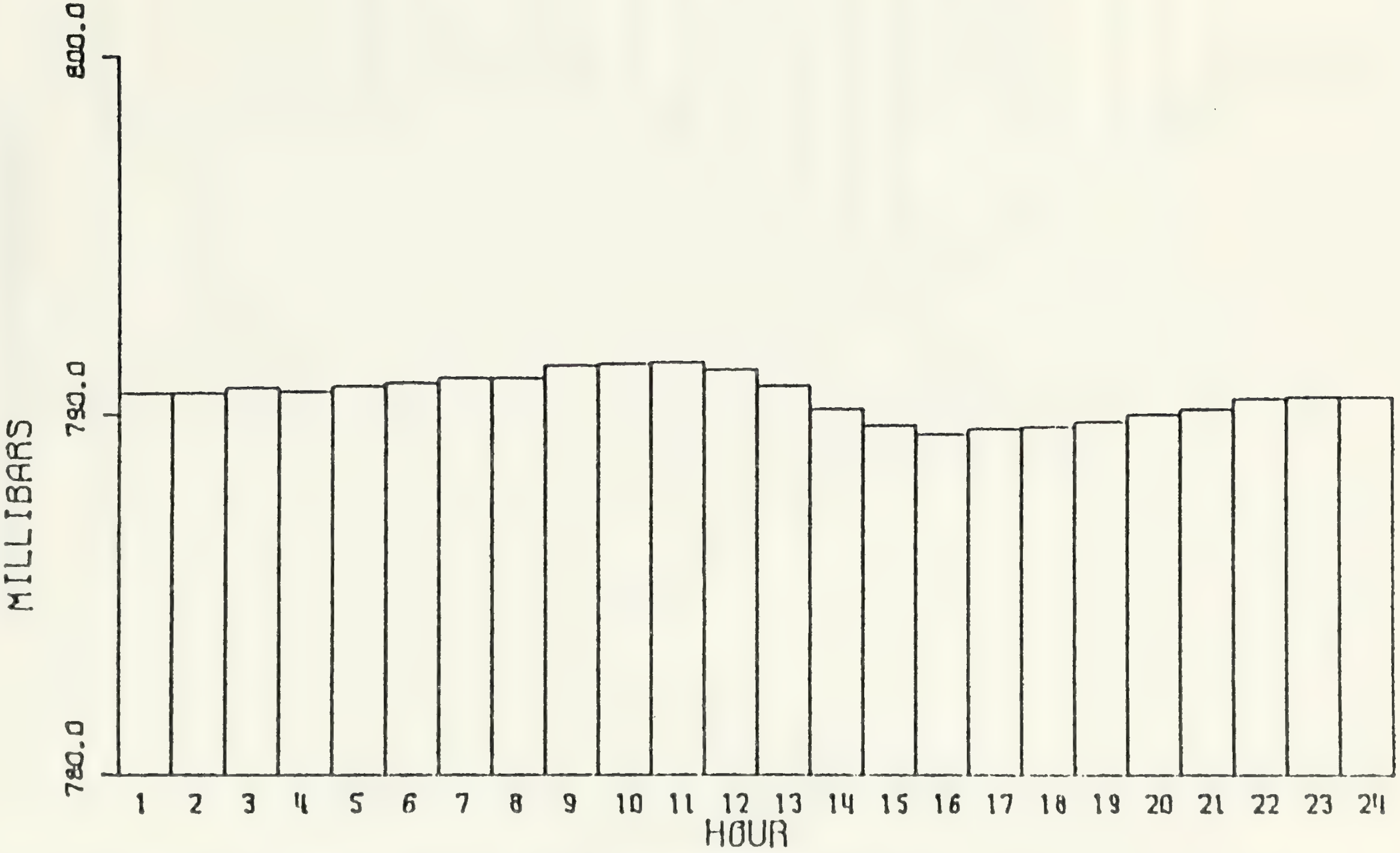
DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)
SITE - 23



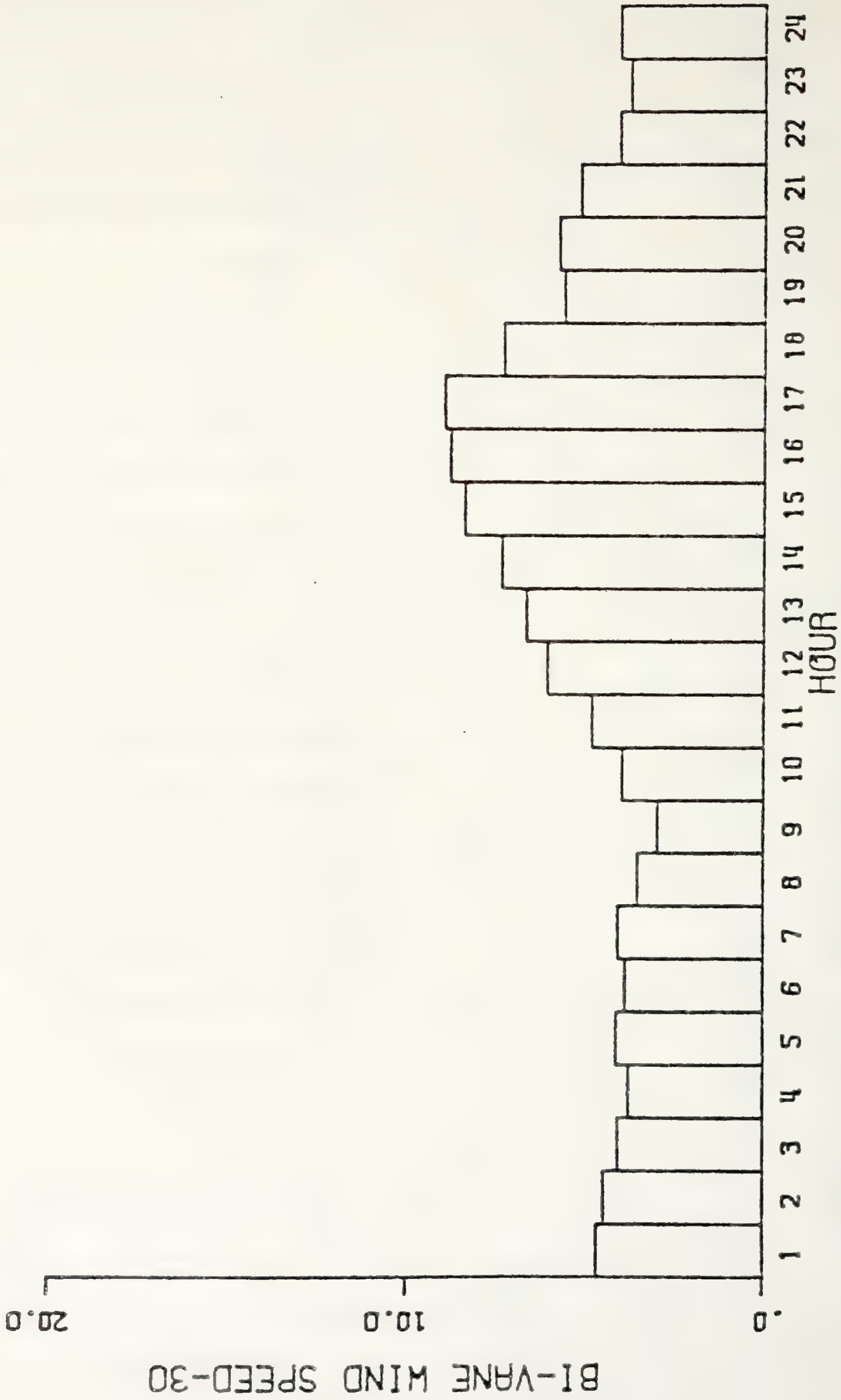
DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)
SITE - 23



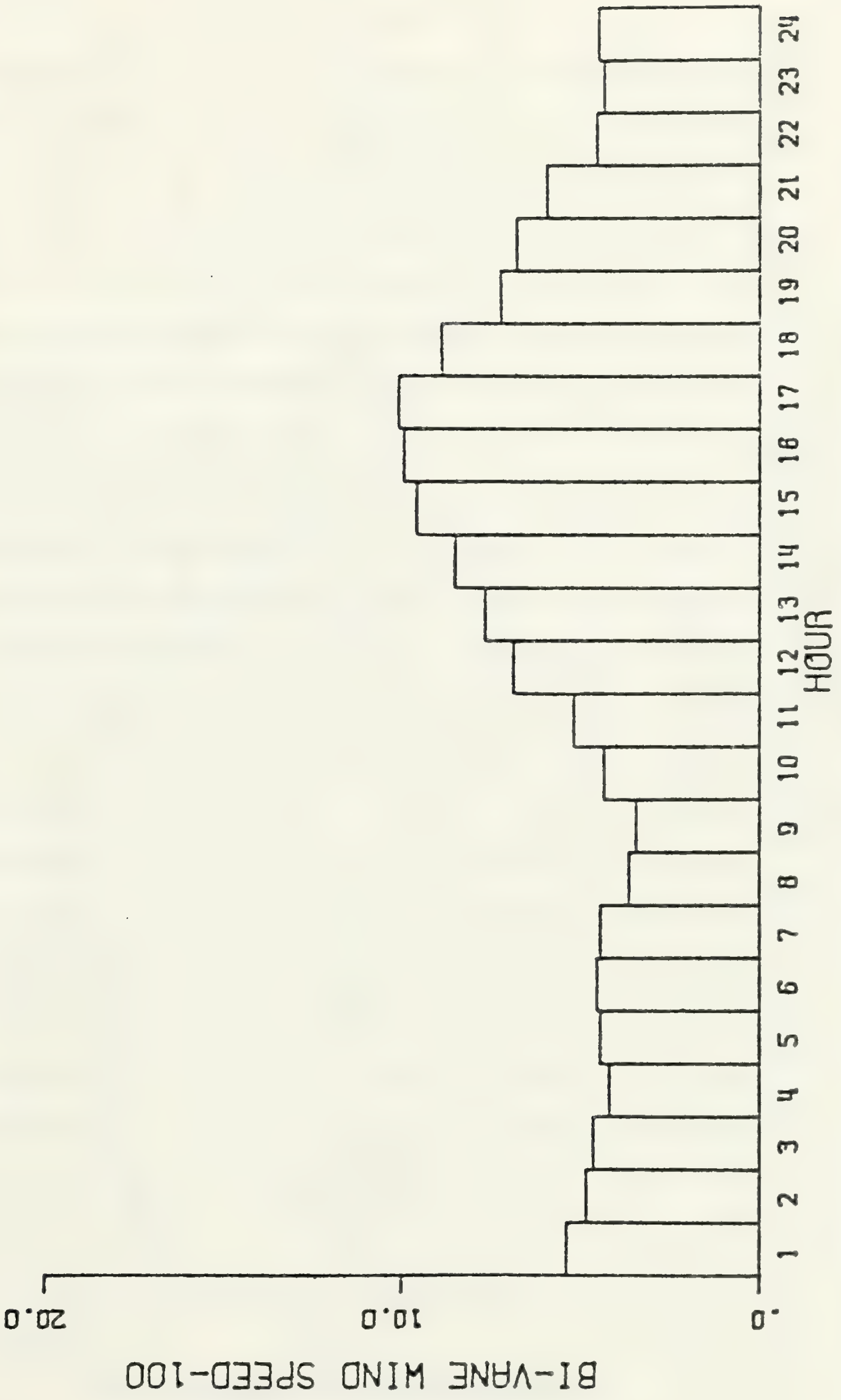
HOURLY TOTAL SOLAR RADIATION (LANGLEY)
SITE - 23



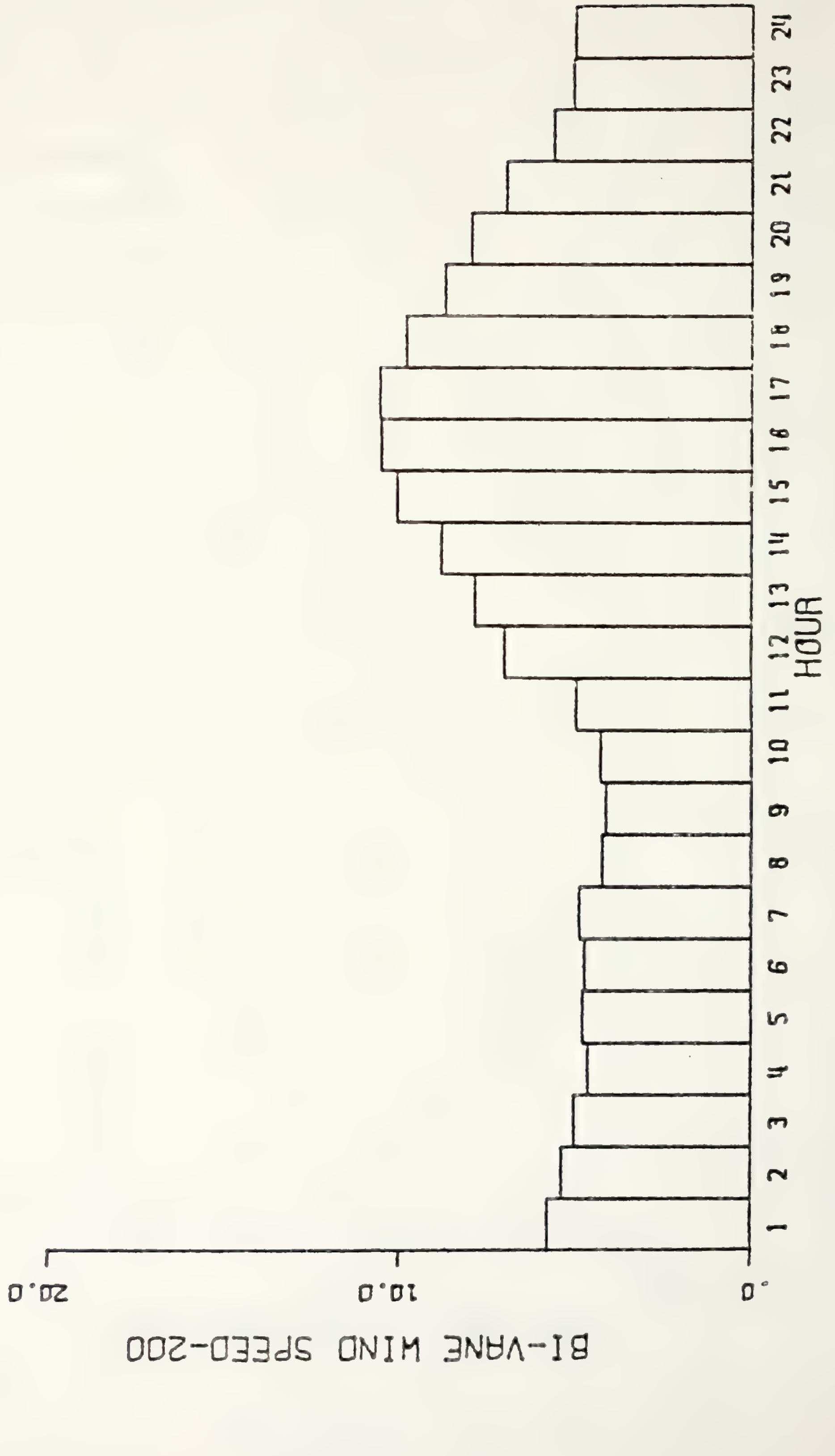
DIURNAL VARIATION OF BAROMETRIC PRESSURE
SITE - 23



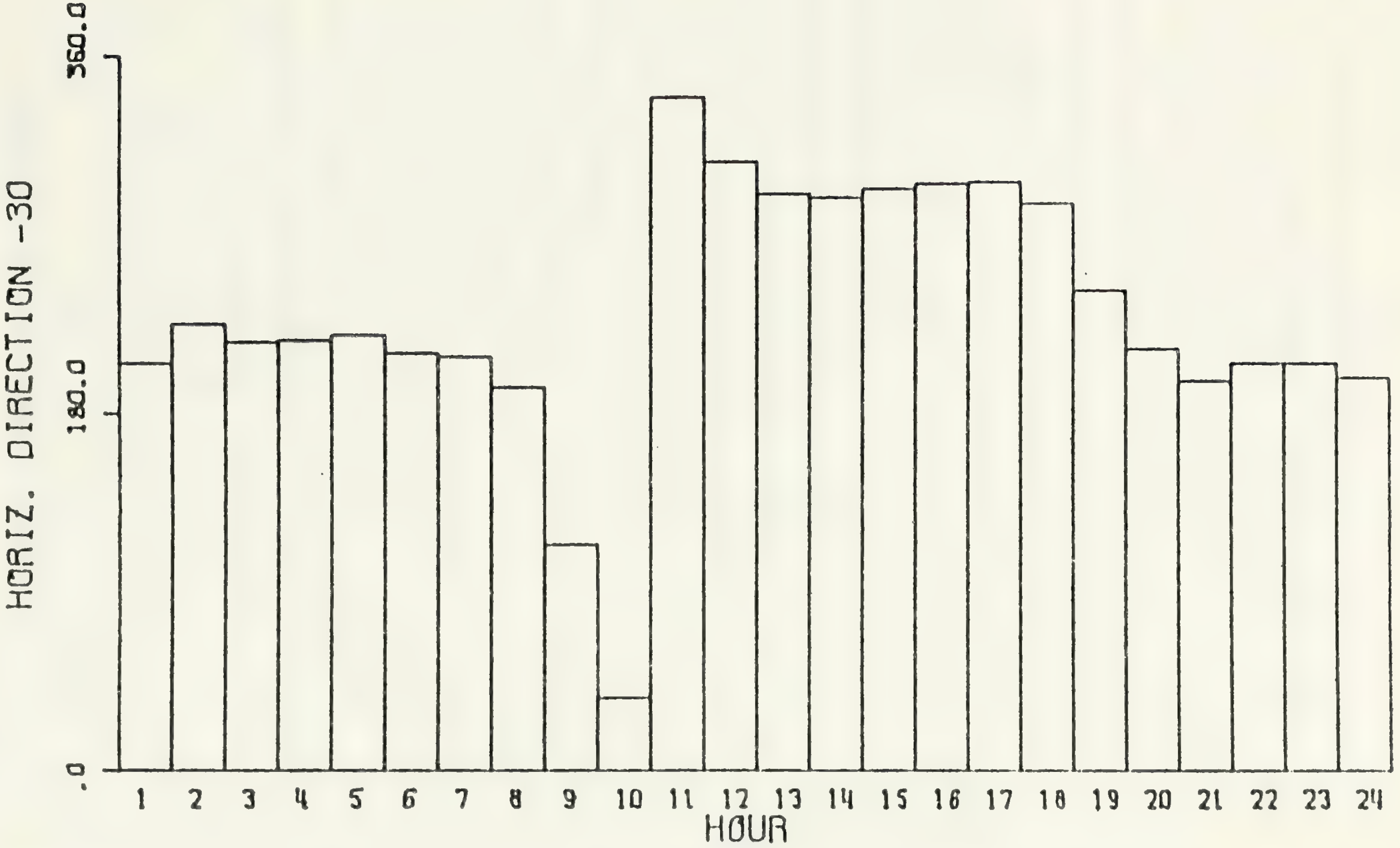
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET
SITE - 23



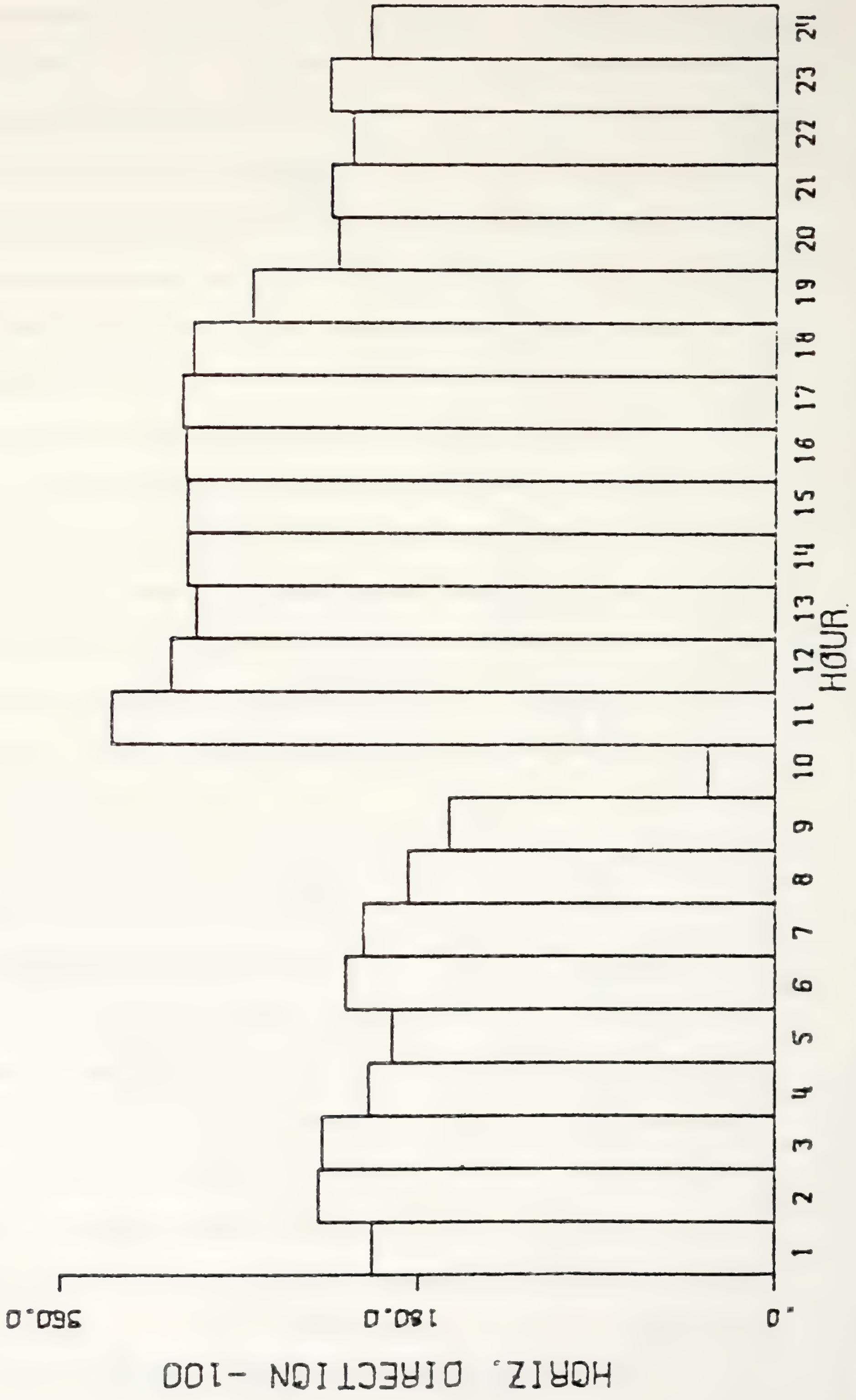
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET
SITE - 23



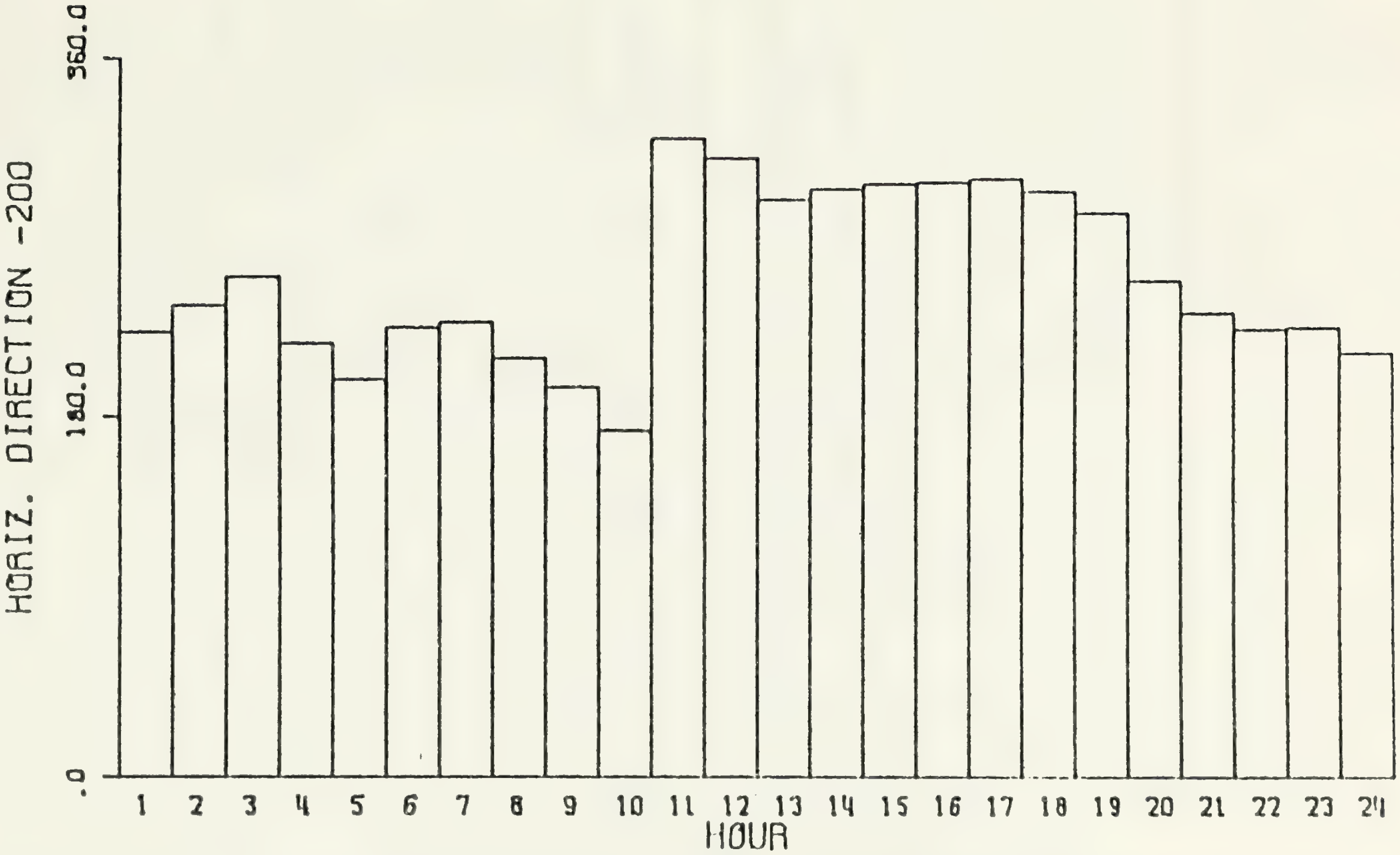
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 200 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET
SITE - 23

C-b SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING PYRANOMETER RECORDING
PERIOD(2/ 1/76 TO 2/28/76)

	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1								C	C	C	C	C	C	C	B	D	D							
2/ 2									C	D	C	B	B	C	D	D	D							
2/ 3								C	C	C	C	B	C	B	B	C	D	C						
2/ 4								C	C	C	C	B	C	C	C	C	D	D						
2/ 5								C	C	C	B	C	C	C	C	C	D	C						
2/ 6								C	C	C	C	C	C	C	C	C	D	C						
2/ 7								C	C	C	C	C	B	C	C	C	D	C						
2/ 8								C	C	B	C	C	B	B	B	C	D	D						
2/ 9								C	C	C	B	C	C	C	C	C	D	D						
2/10								C	C	B	C	C	C	C	C	C	D	D						
2/11								C	C	C	C	C	C	D	D	D	D	D						
2/12								C	C	B	B	B	B	C	B	B	D	D						
2/13								D	C	C	C	B	C	C	C	C	D	D						
2/14								C	C	C	C	C	C	D	C	C	D	C						
2/15								C	C	C	B	B	C	C	C	C	D	D						
2/16								C	C	C	C	C	C	C	C	D	D	D						
2/17								C	C	C	B	C	C	C	C	C	D	D						
2/18								C	C	B	B	C	B	C	C	D	D	D						
2/19								C	C	B	B	C	C	C	C	C	D	D						
2/20								C	C	C	B	C	B	C	C	C	D	D						
2/21								C	C	B	C	D	D	D	D	D	D	D						
2/22								C	D	D	C	D	D	D	D	D	D	D						
2/23								C	C	C	B	B	C	C	D	D	D	D						
2/24								D	D	D	C	C	C	D	D	C	D	D						
2/25								D	D	D	C	C	D	D	D	D	D	D						
2/26								C	B	C	C	C	C	D	D	C	C	C						
2/27								C	C	C	B	A	C	B	B	C	D	D						
2/28								D	C	C	C	B	B	C	C	C	D	D						

* NON-ZERO PYRANOMETER READING BUT STABILITY CLASS UNCERTAIN SINCE NIGHTTIME NET RADIATION INDEX IS REQUIRED

C-B SHALE OIL PROJECT METEOROLOGICAL 10-E4 SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1	F	F	F	F	F	F	F	F	F	E	B	C	B	A	A	B	B	D	D	D	D	D	E	E
2/ 2	D	D	D	D	D	D	D	D	D	B	A	A	A	B	B	B	C	D	E	F	F	F	F	F
2/ 3	F	F	F	F	F	F	F	F	F	C	A	A	B	A	B	B	B	D	F	F	F	F	F	F
2/ 4	F	F	F	F	F	F	F	E	E	B	B	A	B	B	B	B	C	E	E	F	F	F	F	F
2/ 5	F	F	F	F	F	F	F	F	F	E	B	B	B	B	B	A	B	E	E	F	F	F	F	F
2/ 6	E	F	F	F	F	F	F	F	E	D	B	B	B	B	B	B	B	D	F	F	F	F	F	F
2/ 7	F	F	F	F	F	F	F	F	F	D	B	A	A	B	B	B	B	D	F	F	F	F	F	F
2/ 8	F	F	F	F	F	F	F	F	F	D	A	A	A	A	A	B	B	E	F	F	F	F	F	F
2/ 9	F	F	F	F	F	F	F	F	E	B	A	B	B	B	B	B	B	E	F	F	E	F	F	F
2/10	F	F	F	F	F	F	F	F	E	A	A	B	B	B	B	B	B	D	F	F	F	F	F	F
2/11	F	F	F	F	F	F	F	F	F	D	D	B	B	C	C	C	B	D	D	F	F	F	F	F
2/12	F	F	F	F	F	F	F	F	F	E	A	B	A	B	A	A	B	D	F	F	F	F	F	F
2/13	F	F	F	F	F	F	F	F	F	F	E	A	A	B	B	B	B	D	E	E	E	F	E	F
2/14	F	F	F	F	E	F	E	E	C	A	A	B	C	D	B	B	B	D	E	F	F	F	F	F
2/15	F	F	F	E	F	F	F	F	F	B	A	A	B	B	B	B	B	D	F	F	F	F	F	F
2/16	F	F	F	F	F	F	F	F	F	F	A	A	A	A	B	C	C	D	D	E	F	F	F	F
2/17	F	F	F	F	F	F	F	F	F	D	A	B	B	B	B	C	B	D	F	F	F	F	F	F
2/18	E	F	F	F	F	F	F	F	F	D	A	B	A	B	B	B	B	D	E	F	F	F	F	F
2/19	F	F	F	F	F	F	F	F	F	B	A	B	B	B	B	B	B	D	E	F	F	F	F	F
2/20	F	F	F	F	F	F	F	F	F	D	A	B	A	B	B	B	B	D	E	F	F	F	F	F
2/21	F	F	F	F	F	F	F	F	F	A	B	D	C	C	C	D	D	D	D	D	D	D	D	D
2/22	D	D	D	D	D	D	D	E	D	D	D	C	B	B	B	B	D	D	D	D	E	D	D	D
2/23	D	E	F	E	F	F	F	F	A	B	A	A	B	B	C	C	C	D	D	E	D	E	E	E
2/24	D	E	E	F	D	D	D	D	D	D	C	B	B	C	C	C	C	D	D	E	F	E	F	D
2/25	D	D	D	D	D	D	D	D	C	B	B	B	C	D	D	D	D	D	E	F	F	F	F	F
2/26	F	F	F	F	F	F	F	F	E	B	B	B	B	B	B	C	C	D	D	D	D	E	F	F
2/27	F	F	F	F	E	F	E	E	B	A	A	A	B	A	A	B	B	D	E	E	E	F	F	E
2/28	E	F	F	F	F	F	F	F	E	B	B	B	B	B	B	B	B	D	F	D	E	F	F	F

```
                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                        PERIOD( 2/ 1/77 TO  2/28/77)

                           HOURLY WIND AND DIRECTION
                              A STABILITY CLASS

                                     HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24


2/ 1                                                       2   3
                                                         ENE  NE
2/ 2                                           4   3   2
                                              NW WNW WSW
2/ 3                                           2   2       3
                                             NNE   N       N
2/ 4                                               3
                                                  NW
2/ 5                                                           3
                                                              SW
2/ 6

2/ 7                                               2   3
                                                 NNW WNW
2/ 8                                           2   2   3   2   3
                                             NNE NNE   W  SW  SW
2/ 9                                           3
                                              NW
2/10                                       2   2
                                           W WNW
2/11

2/12                                           3       4       3   3
                                             ENE      SW     SSW  SW
2/13                                               3   2
                                                 NNW NNW
2/14                                       2   2
                                           W  NW
2/15                                           2   4
                                             ESE NNW
2/16                                           2   2   2   2
                                               E NNW   N SSE
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                            C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                     PERIOD( 2/ 1/77 TO  2/28/77)

                                       HOURLY WIND AND DIRECTION
                                           A STABILITY CLASS

2/17                                            4
                                               NW
2/18                                            4       3
                                              ENE     ENE
2/19                                            3
                                                N
2/20                                            3       4
                                                N     WSW
2/21                                        2
                                          WSW
2/22

2/23                                    1       4   3
                                      SSW     WNW  NW
2/24

2/25

2/26

2/27                                        2   3   2       3   4
                                          NNE   N NNW     NNW WNW
2/28
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                      C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                            PERIOD( 2/ 1/77 TO  2/28/77)

                             HOURLY WIND AND DIRECTION
                                B STABILITY CLASS

                                          HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

2/ 1                                            1       2               4   7
                                              NNE       S              NW WNW
2/ 2                                        5                   4   7   7
                                           NW                 WNW  NW NNW
2/ 3                                                    4       4   6   5
                                                      NNE      NW NNW NNW
2/ 4                                        1   3       5   7   7   8
                                          WSW WNW      NW  NW  NW  NW
2/ 5                                            4   6   8   7   5       5
                                              SSW SSW SSW SSW  SW     SSW
2/ 6                                            4   4   5   6   5   6   6
                                               NW  NW  NW WNW  NW  NW  NW
2/ 7                                            2           5   6   5   4
                                               NE         NNW NNW NNW   N
2/ 8                                                                5   5
                                                                   SW  SW
2/ 9                                        0       5   7   7   6   8   7
                                            N     WNW WNW  NW NNW  NW NNW
2/10                                                5   7   7   8   6   5
                                                   NW  NW  NW   N   N NNW
2/11                                                7  10               9
                                                  NNW NNW             NNE
2/12                                                5       5           6
                                                  SSW     WSW           [illegible]
2/13                                                        5   8   7   9
                                                           NW NNW NNW  NW
2/14                                                6          10   9  10
                                                  NNW         NNE NNE  NE
2/15                                        5           6   6   8   7   8
                                           SE         NNW NNW  NW  NW  NW
2/16                                                            8
                                                               SW
```

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          C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
        STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                   PERIOD( 2/ 1/77 TO  2/28/77)

                    HOURLY WIND AND DIRECTION
                       B STABILITY CLASS

2/17                    7    8    8    9         9
                      WNW  WNW  WNW  WNW       WNW
2/18                    6         7    9    8   10
                       NE         N  NNW  NNW   NW
2/19         3          6    6    4    6    9    8
             E          N   NW  NNW   NW   NW  NNW
2/20                    5         4    6    7   10
                       SW       WSW  WNW   SW   SW
2/21              9
                 SW
2/22                         5    5   10   10
                             W  WNW   NW  WNW
2/23         2               5    8
           NNW               W   SW
2/24                    9   10
                      WNW    W
2/25        10   10    10
           NNW  NNW     N
2/26         8   10    10   10    8    5
           SSW  SSW   SSW   SW   SW  WNW
2/27    1                    5              7    9
      WNW                  NNW             SW  WNW
2/28         5    6     8    8    6    9   10    9
           SSW   SW    SW   SW  SSW  SSW  SSW  SSW
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                        C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                      STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                PERIOD( 2/ 1/77 TO  2/28/77)

                                  HOURLY WIND AND DIRECTION
                                     C STABILITY CLASS

                                            HOUR
         1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24

 2/ 1                                            4
                                                WNW
 2/ 2                                                                6
                                                                     N
 2/ 3                                        2
                                            ESE
 2/ 4                                                                7
                                                                    NW
 2/ 5

 2/ 6

 2/ 7

 2/ 8

 2/ 9

 2/10

 2/11                                                   13  12  11
                                                         N   N   N
 2/12

 2/13

 2/14                                    2               11
                                        SSW             NNW
 2/15

 2/16                                                           11  11
                                                               SSW SSW
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                  C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                STABILITY CLASS DETERMINATION USING DT/07 (LEVEL 1)
                          PERIOD( 2/ 1/77 TO  2/28/77)

                            HOURLY WIND AND DIRECTION
                              C STABILITY CLASS

2/17                                                                  11
                                                                     WNW
2/18

2/19

2/20

2/21                                                12    12    14
                                                   SSW   SSW    SW
2/22                                           5
                                               N
2/23                                                            12    12    11
                                                                SW    SW    SW
2/24                                    11                11    12    11    11
                                       NNW                 W     W     W     N
2/25                         9                      13
                            NW                       N
2/26                                                                   3     2
                                                                     WSW    SW
2/27

2/28
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                    C-b SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                          PERIOD( 2/ 1/77 TO  2/28/77)

                              HOURLY WIND AND DIRECTION
                                 D STABILITY CLASS

                                                   HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24

2/ 1                                                                                        7    5    3    1    2
                                                                                          WNW  WNW  WNW    N    E
2/ 2      3    5    6    6    5    5    4    2    4                                        7
        WNW  WNW  WNW  WNW  WNW  WNW  WNW  WNW  WNW                                         N
2/ 3                                                                                        3
                                                                                           NW
2/ 4

2/ 5

2/ 6                                                 1                                      5
                                                   NNW                                     NW
2/ 7                                                 2                                      3
                                                     E                                    NNW
2/ 8                                                 2
                                                   ENE
2/ 9

2/10                                                                                        6
                                                                                           NW
2/11                                                 2    1                                 6    3
                                                    SW  NNW                                NE  NNE
2/12                                                                                        9
                                                                                          SSW
2/13                                                                                        7
                                                                                           NW
2/14                                                                   13                   5
                                                                        N                  NE
2/15                                                                                        6
                                                                                          WNW
2/16                                                                                       13   14
                                                                                          SSW  SSW
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                C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                        PERIOD( 2/ 1/77 TO  2/28/77)

                          HOURLY WIND AND DIRECTION
                             D STABILITY CLASS

2/17                                                  1                                       5
                                                    ENE                                       W
2/18                                                  2                                      10
                                                    ENE                                      NW
2/19                                                                                          7
                                                                                             NW
2/20                                                  1                                      11
                                                     NE                                     SSW
2/21                                                            14                  15   16   10    9   24   25   20   12    8
                                                               SSW                 SSW  SSW    S    S  SSW  SSW  SSW   SW   SW
2/22     19   16   11    9    7    3    4         6    5    3                            12    7    6    8         9   10    8
         SW   SW    W  WNW  WNW    N  NNW         N   NE    N                           WNW  WNW    W    W         W    W    W
2/23      7                                                                                  11    8        10
          W                                                                                  SW   SW       WSW
2/24     13                       11   10   13    9    9   13                                 7    2                        5
         SW                        W  WSW    W    W    W    W                                 N   NW                      WNW
2/25      3    6    5    6    8    8    8    8                             16   15   17   14   10
        WNW   NW   NE   NW   NW  NNW  NNW   NW                              N    N    N    N    N
2/26                                                                                          2    5    7    9
                                                                                             SE    W    W  WNW
2/27                                                                                          5
                                                                                             NW
2/28                                                                                          9        12
                                                                                              S         S
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                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
             STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                        PERIOD( 2/ 1/77 TO  2/28/77)

                          HOURLY WIND AND DIRECTION
                              E STABILITY CLASS

                                                          HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24


2/ 1                                                  2                                                                 1    1
                                                    ENE                                                               ENE   SE
2/ 2                                                                                                    9    6    5
                                                                                                        N    N  NNW
2/ 3

2/ 4           1                             0    1                                            7    4              0
               N                             N  WNW                                           NW   NW            ENE
2/ 5                                              2                                            5    1
                                                ESE                                          SSW  SSW
2/ 6      0                        1              0
        WNW                        N              E
2/ 7                                         1                                                      2
                                           NNE                                                    ESE
2/ 8                                                                                           9
                                                                                             SSW
2/ 9                                              0                                            8    5    0    1
                                                  N                                           NW    N    E  WSW
2/10                                              0                                                      0    1
                                                 NW                                                    NNE  WSW
2/11                                                                                                          1    1
                                                                                                            NNW   SE
2/12                                                   3                                            7
                                                     ESE                                            S
2/13                                                        2                                       4    2    5    2    4    5
                                                            E                                     WNW    W  NNW    E  NNW  NNE
2/14           6         4    5    2    1    2                                                      5         5
               N       WNW    W  WNW  SSE   SE                                                      E         E
2/15                     0                                                                                         1
                         S                                                                                         S
2/16                                                                                                   14   11
                                                                                                      SSW  SSW
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CORPORATION

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                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                  STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                           PERIOD( 2/ 1/77 TO  2/28/77)

                              HOURLY WIND AND DIRECTION
                                 E STABILITY CLASS

2/17    11
       SSW
2/18     3                                                                                         6
         W                                                                                        NE
2/19                                                                                               4
                                                                                                 WNW
2/20                                                                                              12
                                                                                                 SSW
2/21                            10
                               SSW
2/22                                      5                                                                  9
                                        WNW                                                                  W
2/23          7    4    3                                                                           7         7    4   10
            WNW  WNW    W                                                                         WSW        SW  SSW   SW
2/24         10   10   10                                                                           2    2    2    3
             SW  WSW  WSW                                                                           W  NNW    W  NNW
2/25                                                                                               9    3
                                                                                                   N   NE
2/26                                           3                                                              4    5    5
                                               S                                                             NW  WNW  WNW
2/27     5    6         4    5    5    5    2                                                      2    6    5    7        10
       WNW  WNW        NW    W  WNW  WNW  WNW                                                      W  SSW  SSW  SSE       SSW
2/28     9    9                   10         2                                                     9         7    5         3
         S    S                  SSW       SSE                                                     S         S   SE         E
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                              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                                       PERIOD( 2/ 1/77 TO  2/28/77)

                                         HOURLY WIND AND DIRECTION
                                            F STABILITY CLASS

                                                    HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24


2/ 1      3    3    3    3    4    3    3    2    3
        ESE   SE   SE  SSE  SSE  ESE   SE   SW    W
2/ 2                                                                                                             3    5    4
                                                                                                               WNW    W    W
2/ 3      2    2    0    0    1    0    0    1    0                                                 4    7    2    1    2    1
        WSW  WSW  ESE    E   SW    W    E    S   SE                                               WSW  SSW    S  WNW  ESE  WSW
2/ 4      1         2    0    1    2    2                                                                3    3         0    1
        WSW       WNW    E  NNW   NW   SW                                                              WSW   SW        NE   SW
2/ 5      1    0    1    0    2    4    1    2    3                                                      2    2    1    1    1
        SSW  ESE    S  ENE  ESE  SSE  SSW   SE  ESE                                                      S    S   SW   NE  NNW
2/ 6           1    0    0    0         1    0                                                      2    1    2    1    0    0
             SSW  NNW  WNW  ENE       SSW  ENE                                                    NNW  WNW    W    W    N  ESE
2/ 7      0    0    1    2    0    0    1         1                                                      1    2    2    1    0
         SE  NNW   NW  WSW    E   NE    W        NE                                                      S   NE  SSE  WNW   SE
2/ 8      1    2    4    4    2    5    6    5    4                                                 7    3    3    5    5    4
        WNW   NE   SE  SSE   SE  SSE   SE   SE   SE                                                 S  ESE  SSE   SE   SE   SE
2/ 9      5    3    5    2    1    2    5    1                                                                     2    2    2
         SE   SE   SE    S   NE  SSE  WSW    N                                                                   WNW  WSW  WSW
2/10      1    1    1    2    2    2    2    1                                                      6              1    2    1
        SSW  WNW    W  WSW  WSW  WSW   SW   SW                                                    NNW            WSW  WSW   SW
2/11      1    1    3    1    1    2    2    2    2                                                      3              1    2
        ENE   NE   NW   SW  NNE    S   NW    S  SSE                                                     NW            SSW   SW
2/12      1    1    1    3    1    1    3    1    1                                                      2    3    2    3    4
         SE  WSW    S    S   SE  NNW   SE    W   NE                                                    ESE   SE   SE   SE   SE
2/13      4    3    3    2    3    4    6    5    5    2
        ESE   SE  ESE  SSW    S  ESE   SE  ESE  SSE    S
2/14      8         7                                                                                   6         2    0    2
          N        NW                                                                                 ESE        SE    N  SSW
2/15      1    1    1         1    3    4    6    7                                                 5    7    4         1    2
        SSW    W   SE        SE    S    S    S  SSE                                                SW  SSW   SW         S   SW
2/16      1    1    1    2    2    0    1    1    1    1                                                          3    5    7
        SSW  SSW  ESE  ENE  SSE    W  WSW  ESE    S    E                                                        SSW  SSW    S
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                C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
          STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)
                    PERIOD( 2/ 1/77 TO  2/28/77)

                         HOURLY WIND AND DIRECTION
                            F STABILITY CLASS

2/17               8     7     2     4     2     1     1     2                                                           7     7     2     2     5     6
                 SSW   SSW   SSW   SSW   WSW   SSE    SE   SSE                                                          SW    SW    SW    SW   WSW    SW
2/18               3     4     4     3     2     1     2     1                                                                 5     4     1     2     0
                   W    SE    SE   SSE   SSW   SSE   SSW     S                                                                SE   SSE    SW   WSW   SSE
2/19         2     2     1     0     3     1     1     1     1                                                                 5     7     1     1     0
            SE    SE    NE   NNE    SW    SE     S    SE     E                                                                SW   SSW    SW    SE    NE
2/20         1     0     1     0     1     1     1     1     2                                                                 8     5     4     2     3
           SSE    NE   SSW     E     S     W     W     S     E                                                               SSW   SSW     S     S    SE
2/21         2     4     4     9     6           7     3     2
           SSE     S   SSW   SSW     S           S    SE   ESE
2/22

2/23                             5     5     2     1
                                 W   WSW   WSW   SSW
2/24

2/25                                                                                                                                     0     1     2     1
                                                                                                                                        SE     W     W   WSW
2/26         2     1     2     1     0     2     3     3
           WSW   ESE     W    SE     E     E   SSE     S
2/27                     3                                                                                                                           8
                       NNW                                                                                                                         SSW
2/28                     4     5     8     9           8                                                                                             5
                         S     S     S     S         SSW                                                                                           ESE
```

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(2/ 1/77 TO 2/28/77)

	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1	E	E	F	F	E	E	E	D	E	D	A	B	A	A	A	B	B	B	B	A	A	B	D	C
2/ 2	A	B	B	B	B	B	A	A	A	B	A	A	A	B	B	B	B	B	C	C	D	E	E	E
2/ 3	E	D	E	F	E	F	E	F	F	A	A	A	B	A	B	B	B	A	E	F	F	F	F	E
2/ 4	E	E	F	E	E	E	E	D	C	A	B	A	B	B	B	B	B	B	D	E	F	D	E	E
2/ 5	F	E	F	F	E	E	E	E	E	D	B	B	B	B	B	A	B	D	C	E	E	E	F	F
2/ 6	D	E	E	E	E	E	E	E	E	C	B	B	B	B	B	B	B	A	E	E	E	F	D	E
2/ 7	F	F	F	E	F	F	F	F	F	D	A	A	A	B	B	B	B	A	D	E	F	E	E	E
2/ 8	E	F	F	F	F	F	F	F	E	A	A	A	A	A	A	B	B	D	F	F	F	F	F	F
2/ 9	F	F	F	E	F	F	F	F	E	A	A	B	B	B	B	B	B	C	D	D	D	E	E	E
2/10	F	E	D	E	E	E	E	E	C	A	A	B	B	B	B	B	B	B	E	D	D	D	F	F
2/11	F	F	F	F	E	E	F	E	E	C	A	B	B	C	C	C	B	B	A	E	D	D	D	F
2/12	F	F	D	E	F	F	E	F	F	F	A	B	A	B	A	A	B	B	D	E	F	E	E	F
2/13	E	E	F	F	F	F	F	F	F	F	C	A	A	B	B	B	B	B	D	D	D	D	D	D
2/14	E	D	D	D	D	C	A	C	A	A	A	B	C	D	B	B	B	B	D	D	D	E	E	F
2/15	E	F	F	E	E	F	F	F	E	B	A	A	B	B	B	B	B	B	E	E	E	F	D	F
2/16	F	F	F	F	E	F	F	F	F	E	A	A	A	A	B	C	C	C	D	D	E	E	E	E
2/17	E	E	F	E	F	F	E	E	E	D	A	B	B	B	B	C	B	C	F	F	D	F	E	F
2/18	F	E	E	E	F	F	E	F	E	C	A	B	A	B	B	B	B	B	B	D	F	F	E	E
2/19	E	F	F	E	F	E	F	F	F	A	A	B	B	B	B	B	B	B	D	E	F	E	F	E
2/20	E	F	F	F	F	F	F	F	F	A	A	B	A	B	B	B	B	C	E	F	E	F	E	F
2/21	E	E	E	F	E	E	E	F	F	A	B	D	C	C	C	D	D	B	C	D	D	D	B	B
2/22	D	D	B	B	B	A	A	A	B	B	A	B	B	B	B	B	B	B	B	B	B	B	B	B
2/23	B	B	B	D	E	E	E	D	A	A	A	A	B	B	C	C	C	B	B	B	B	B	D	D
2/24	C	B	B	B	C	B	C	B	B	D	C	B	B	C	C	C	C	B	A	C	D	C	C	A
2/25	A	B	B	B	B	B	B	B	B	B	B	B	C	D	D	D	D	B	C	D	D	D	F	E
2/26	E	F	E	F	E	E	E	F	C	B	B	B	B	B	B	A	A	A	B	B	B	A	C	D
2/27	C	D	D	D	C	A	A	C	A	A	A	A	B	A	A	B	B	B	B	D	E	D	E	E
2/28	D	D	E	E	E	F	E	F	A	B	B	B	B	B	B	B	B	B	C	D	D	D	E	D

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                       C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                    STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                               PERIOD( 2/ 1/77 TO  2/28/77)

                                 HOURLY WIND AND DIRECTION
                                     A STABILITY CLASS

                                          HOUR
          1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24

2/ 1                                                        1         2    2    3                        4    1
                                                          NNE       SSW  ENE   NE                       NW  NNW
2/ 2      4                             5    3    5         4    3    2
        WNW                            NW   NW   NW        NW  WNW  WNW
2/ 3                                                   2    2    2         4                   3
                                                     ESE  NNE  NNE         N                 NNW
2/ 4                                                   2         3
                                                       W        NW
2/ 5                                                                            3
                                                                               SW
2/ 6                                                                                      5
                                                                                         NW
2/ 7                                                        2    3    3                        3
                                                           NE  NNW   NW                      NNW
2/ 8                                                   2    2    2    3    3    4
                                                       E  NNE  NNE  SSW   SW   SW
2/ 9                                                   0    2
                                                       N   NW
2/10                                                   3    2
                                                       W  WNW
2/11                                                        1                                   3
                                                          NNE                                 NNE
2/12                                                        3         4         5    4
                                                            E        SW        SW   SW
2/13                                                             3    2
                                                               NNW  NNW
2/14                                    1         2    2    2
                                        E         S    W   NW
2/15                                                        2    4
                                                          ESE  NNW
2/16                                                        2    2    2    2
                                                            E  NNW  WNW  SSW
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                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                      PERIOD( 2/ 1/77 TO  2/28/77)

                        HOURLY WIND AND DIRECTION
                          A STABILITY CLASS

2/17                                             4
                                               WNW
2/18                                             5       4
                                               ENE     ENE
2/19                                         3   4
                                           ESE NNE
2/20                                         1   3       5
                                           ENE NNW     WSW
2/21                                         3
                                            SW
2/22                     4   5   7               3
                       NNW  NW  NW               N
2/23                                 2   2   4   3
                                    SW  NW WNW WNW
2/24                                                                             3                   5
                                                                               NNW                  NW
2/25     4
       WNW
2/26                                                                 5   2   3               7
                                                                     W  SW  SE              NW
2/27                     8   7       1   2   3   2       4   4
                       WNW WNW       N   N NNW NNW     WNW  NW
2/28                                 3
                                   SSW
```

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(2/ 1/77 TO 2/28/77)

HOURLY WIND AND DIRECTION
B STABILITY CLASS

	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1												4 WNW				5 [illegible]	7 NW	8 WNW	7 WNW			2 [illegible]		
2/ 2		6 NW	7 NW	7 NW	5 WNW	7 WNW				5 NW				5 WNW	7 NW	6 N	7 N	8 N						
2/ 3													4 NNE		5 NW	7 [illegible]	5 NNW							
2/ 4											5 WNW		6 NW	7 NW	8 NW	9 NW	7 NW	8 NNW						
2/ 5											4 SW	7 SW	8 SSW	8 SSW	5 SW		5 SSW							
2/ 6											4 NW	4 NW	6 WNW	6 WNW	6 NW	6 NW	6 NW							
2/ 7														6 NNW	7 NNW	6 NNW	4 N							
2/ 8																5 SW	6 SW							
2/ 9												4 WNW	6 WNW	7 NW	8 NW	8 NW	7 NNW							
2/10												5 NW	7 NW	8 NW	9 N	7 N	5 NNW	8 NW						
2/11												8 NNW	11 NNW				10 NNE	7 NE						
2/12												5 SSW		5 WSW			6 W	10 SSW						
2/13														6 NW	8 NNW	7 NNW	10 NW	8 NW						
2/14												7 NW			11 NNE	10 NNE	11 NE	5 NE						
2/15										5 SSE			7 NNW	6 NNW	8 NW	8 NW	9 WNW	7 NNW						
2/16															9 SW									

CORPORATION

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                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                            PERIOD( 2/ 1/77 TO  2/28/77)

                              HOURLY WIND AND DIRECTION
                                 B STABILITY CLASS

2/17                                                           7    9    9   10        10
                                                             WNW  WNW  WNW  WNW       WNW
2/18                                                           6         7   10    8   11   10    6
                                                              NE         N   NW  NNW   NW   NW   NE
2/19                                                           7    6    5    7   10    9    8
                                                             NNW   NW   NW   NW   NW  NNW   NW
2/20                                                           5         5    6    8   11
                                                              SW       WSW  WNW   SW   SW
2/21                                                      10                                  12                  14   10
                                                          SW                                   S                  SW   SW
2/22             12   11    8                   7    6         5    6    5   11   12   13    8    8   10   11   11   12    9
                  W  WNW  WNW                   N   NE         N    W  WNW   NW  WNW  WNW  WNW  WNW  WNW    W    W    W    W
2/23      9    9    6                                               5    9                  12   10    9   15    9
          W    W  WNW                                               W   SW                  SW   SW  WSW  WSW   SW
2/24          13   13   12        11        11   10             9   10                   8
              SW  WSW  WSW         W         W    W           WNW    W                   N
2/25           7    6    7    9    9    9    9    9   10   11   10                        11
              NW   NW   NW   NW  NNW  NNW  NNW   NW  NNW  NNW    N                         N
2/26                                                 8   11   11   11    9    6                   6    8   11
                                                   SSW   SW   SW  SSW  WSW  WNW                   W    W  WNW
2/27                                                                5              7    9    6    3
                                                                   NW             NW  WNW   NW  WNW
2/28                                                 5    6    9    8    7   10   11   10   10
                                                   SSW   SW   SW   SW   SW  SSW  SSW  SSW    S
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C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(2/ 1/77 TO 2/28/77)

HOURLY WIND AND DIRECTION
C STABILITY CLASS

HOUR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1																								1 WNW
2/ 2																			11 NNE	8 N				
2/ 3																								
2/ 4									1 W															
2/ 5																			2 S					
2/ 6										1 WNW														
2/ 7																								
2/ 8																								
2/ 9																		8 NW						
2/10									1 W															
2/11										2 SSW				15 NNE	13 N	12 N								
2/12																								
2/13											2 SSE													
2/14						3 WNW		2 SE					12 NNW											
2/15																								
2/16																15 SW	13 SSW	16 SW						

```
                 C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
             STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                        PERIOD( 2/ 1/77 TO  2/28/77)

                           HOURLY WIND AND DIRECTION
                             C STABILITY CLASS

2/17                                                              11       7
                                                                 WNW       W
2/18                                        2
                                          ESE
2/19

2/20                                                                      14
                                                                          SW
2/21                                                  13  14  15              12
                                                     SSW SSW  SW               S
2/22

2/23                                                          13  13  12
                                                              SW  SW  SW
2/24    16              13      16              11          12  12  11  12          2       2   4
        SW               W       W             WNW         WNW   W  NW   N         NW       N  NW
2/25                                                  14                      10
                                                       N                       N
2/26                                    5                                                       7
                                        S                                                     WNW
2/27     6               6           4
       WNW             WNW          NW
2/28                                                                          12
                                                                               S
```

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(2/ 1/77 TO 2/28/77)

HOURLY WIND AND DIRECTION
D STABILITY CLASS

HOUR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1								2 WSW		3 NE													1 NE	
2/ 2																					4 N			
2/ 3		2 N																						
2/ 4								1 WNW											5 NNW			1 SSE		
2/ 5										1 ESE								7 SW						
2/ 6	0 NNW																						1 WSW	
2/ 7										0 E									2 E					
2/ 8																		10 SSW						
2/ 9																			7 NNW	2 N	1 NW			
2/10			1 WNW																	1 N	0 NE	0 NE		
2/11																					2 WNW	0 WSW	0 WSW	
2/12			2 SW																9 SSW					
2/13																			4 NNW	5 WNW	4 NNW	4 N	6 N	7 N
2/14		7 N	8 NNE	6 NW	6 WNW									14 N					5 E	8 E	6 ESE			
2/15																							1 SSW	
2/16																			18 SSW	18 SSW				

```
                C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
              STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                        PERIOD( 2/ 1/77 TO  2/28/77)

                            HOURLY WIND AND DIRECTION
                               D STABILITY CLASS

2/17                                         2                                           1
                                           SSW                                          SW
2/18                                                                                 6
                                                                                    SE
2/19                                                                             6
                                                                                NW
2/20
2/21                                                15              16  18          28  29  24
                                                    SW             SSW SSW         SSW SSW SSW
2/22    22  18
        SW WSW
2/23                 5               2                                                           8  14
                   WNW             WSW                                                          SW  SW
2/24                                        15                                           3
                                             W                                           N
2/25                                                        16  16  18  14           5   1   2
                                                             N   N   N   N         NNE  NE  NW
2/26                                                                                                 7
                                                                                                     W
2/27             8   6   7                                                               7       10
               WNW NNW NNW                                                             SSW     SSW
2/28    10  10                                                                      14   9   6       3
       SSW SSW                                                                     SSW   S  SE     ESE
```

# C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
# STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
PERIOD(2/ 1/77 TO 2/28/77)

HOURLY WIND AND DIRECTION
E STABILITY CLASS

	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2/ 1	4 SSE	4 S	3 SSE	3 S	6 S	2 SE	2 SE		4 WNW															
2/ 2																						3 NW	5 WNW	4 WNW
2/ 3	3 W		1 SW	1 SE	1 SSW		0 E												3 WNW				2 ESE	1 SW
2/ 4	0 SSW	2 N	2 WNW	0 NE	1 E	2 NW	2 W													3 W	2 W		1 ESE	1 S
2/ 5		1 SE		0 WSW	0 ESE	4 SSE	2 WSW	1 SSE	2 SE											2 S	2 SSE	1 W	1 WSW	1 N
2/ 6		0 N	0 NNW	0 W	1 W	2 W	2 WSW	1 SW	1 SSW										3 NNW	2 N	2 NNW	2 WNW		1 SW
2/ 7				1 W																1 SSE		2 SW	0 W	1 SSW
2/ 8	1 WNW	2 NNE							2 SE										8 SSW	1 NE				
2/ 9									0 NNW													3 NE	1 WNW	1 W
2/10	1 WSW	1 WNW		2 W	2 W	2 W	3 WSW	3 WSW											8 NNW				2 WNW	1 WSW
2/11				0 WNW	1 NE	1 WSW		2 SSE	3 SE											3 NW				2 WSW
2/12	0 SSE			3 SSW			3 ESE			2 SE										3 SW	3 S	2 S	3 S	
2/13	3 SW	3 SE					5 SE																	
2/14	10 N																					3 E	1 E	2 S
2/15	1 SSW			0 WSW	2 SSE				9 SSE										5 SW	9 SW	6 WSW	2 WSW		0 WSW
2/16					1 SSE					2 SE											17 SSW	11 SSW	10 SW	11 SSW

```
                                              C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                                           STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                                      PERIOD( 2/ 1/77 TO  2/28/77)

                                                         HOURLY WIND AND DIRECTION
                                                            E STABILITY CLASS

2/17     16   13         7              3    3    4                                                                4    7
        SSW  SSW       SSW            SSW  SSW  SSW                                                              WSW    W
2/18      5    4    4    6              3         3                                                           4         0    0
          W    W   SE  ESE            SSW       SSW                                                          SE       WNW   SE
2/19      2    2    1    1         1                                                                       4         3    1    0
        ESE    E  NNE    N       SSW                                                                     WSW        SW    S  ENE
2/20      3         2                                                                                 17         9    8    4
        SSW       SSW                                                                                SSW       SSW  SSW  SSW
2/21      3    7    7   12    8   14    8    3    2
        SSW  SSW  SSW  SSW  SSW  SSW    S    S    S
2/22

2/23                          5    5    3
                            WNW    W  WSW
2/24

2/25                                                                                                                    3    2
                                                                                                                      WNW  WNW
2/26      2    0    2    1    0    1    3
          W    W  WNW   SW    E    E  SSE
2/27                                                                                                          8        13   14
                                                                                                             SW       SSW  SSW
2/28                8    6   10        15                                                                                   6
                  SSW  SSW    S       SSW                                                                                  SE
```

```
                          C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                      STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                                  PERIOD( 2/ 1/77 TO  2/28/77)

                                   HOURLY WIND AND DIRECTION
                                       F STABILITY CLASS

                                              HOUR
           1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16    17    18    19    20    21    22    23    24

2/ 1

2/ 2

2/ 3                                   0           0     0                                                                 6     3     2
                                      NW         ESE   ESE                                                               SSW     S    SW
2/ 4

2/ 5       1           2
           S          SW
2/ 6

2/ 7       1     0     1           0     0     0     2     2                                                                     1
          SW   NNW     N          SW   SSE     N     N     N                                                                    SE
2/ 8                   3     3     2     3     5     3                                                                         1     3     4     3
                      SE    SE   ESE   SSE    SE   SSE                                                                       SSE   SSE    SE    SE
2/ 9       2     2     3     1     1     2     1     2
         SSE    SE    SE     S   ESE    SE    NW     N
2/10

2/11       0     0     2                       1
          SW     E   NNW                       W
2/12             1                 1     1           1     1                                                                                 3
                 W                 S   WNW          SW   WSW                                                                               SSE
2/13                   2     1     3     4           5     5     4
                     NNW    SW     S     S           S     S   SSW
2/14

2/15             0     0                 3     7     9
                NW   WSW               SSE     S     S
2/16       1     2     2     1           0     1     2     3
         WSW   SSW   SSW    NE         WNW   NNW   SSE   SSE
```

CORPORATION

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                    C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE
                 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)
                           PERIOD( 2/ 1/77 TO  2/28/77)

                              HOURLY WIND AND DIRECTION
                                 F STABILITY CLASS

2/17              11          10     5                                                                             9     9                       9
                 SSW         SSW   SSW                                                                           WSW   WSW                      SW
2/18                           3     4           2                                                                                   1
                              SE   SSW          SW                                                                                   E
2/19                           2           1     1     2                                                                       8
                             WSW          SW    SE    SE                                                                      SW
2/20         0           1     1     1     1     1     2                                                                13                       3
             S           S   WSW     W    NW   NNE     E                                                               SSW                       S
2/21

2/22

2/23

2/24

2/25

2/26                                             4
                                                 S
2/27

2/28                                12          12
                                     S         SSW
```

APPENDIX A

STABILITY WIND ROSE DIAGRAMS

APPENDIX A
STABILITY WIND ROSE DIAGRAMS

According to the data presented in AEC Safety Guide No. 23, the relationships between stability classes and σ_Θ are as follows (the values shown are averages for each stability classification...σ_Θ is the standard deviation of horizontal wind direction fluctuations).

Stability Classification	Pasquill Categories	Average Values σ_Θ (degrees)
Extremely Unstable	A	25.0°
Moderately Unstable	B	20.0°
Slightly Unstable	C	15.0°
Neutral	D	10.0°
Slightly Stable	E	5.0°
Moderately Stable	F	2.5°

Stability wind roses obtained at the trailers in the monitoring network are displayed in the following tables. Because of the relatively low heights above the surface (9 meters) at which the wind data is taken, the stability distributions are skewed toward the unstable end of the spectrum. That is, the unstable classes (A, B, and C) have a much higher frequency of occurrence than would be obtained with the Pasquill method of stability categorization (or with instruments at higher levels).

Table 1 depicts the frequency distribution of Pasquill stability categories based on σ_Θ from data collected by M. M. Pendergast and T. V. Crawford at the Savannah River Plant ("Actual Standard Deviations of Vertical and Horizontal Wind Direction Compared to Estimates from Other Measurements", Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974). Three distinct range patterns of stability class

distributions were observed: low, mid, and high, according to the height at which the σ_θ measurements were taken.

TABLE 1

FREQUENCY DISTRIBUTION OF PASQUILL STABILITY CATEGORIES

Height, m	Stability Categories based on σ_θ							
	A $\sigma_\theta > 22$	B $18 \le \sigma_\theta < 22$	C $13 \le \sigma_\theta < 18$	D $8 \le \sigma_\theta < 13$	E $4 \le \sigma_\theta < 8$	F $2 \le \sigma_\theta < 4$	G $\sigma_\theta < 2$	
10	22.6	13.9	21.8	25.9	8.9	0.4	3.5	LOW RANGE
35	19.3	11.3	19.4	32.4	15.9	0.7	0.5	
91	9.6	6.7	13.5	21.7	29.5	16.4	2.5	MID RANGE
137	9.3	5.5	11.7	20.8	28.5	18.4	5.5	
182	7.0	2.9	6.3	17.1	25.9	25.5	14.7	
243	7.7	4.3	9.4	17.7	27.6	22.9	10.4	HIGH RANGE
304	7.2	3.7	8.0	17.2	23.7	23.9	11.3	

Also, Figure 1 (from D. H. Slade, Meteorology and Atomic Energy, 1968, p. 52) demonstrates that the line representing very stable conditions (which by their nature are associated with light winds) branches into three separate lines near the ground. The curve at the left represents the smallest values of σ_θ usually observed. The curve that branches off to the right reflects the contribution of very low-level wind direction meander to the total standard deviation. These meandering oscillations decrease in amplitude very rapidly with height under stable conditions. The central curve represents typical inversion conditions. Actually, for a given stability condition, values of σ_θ will always be greater when the wind is light than when it is strong. This phenomena is most noticeable in the lowest layers.

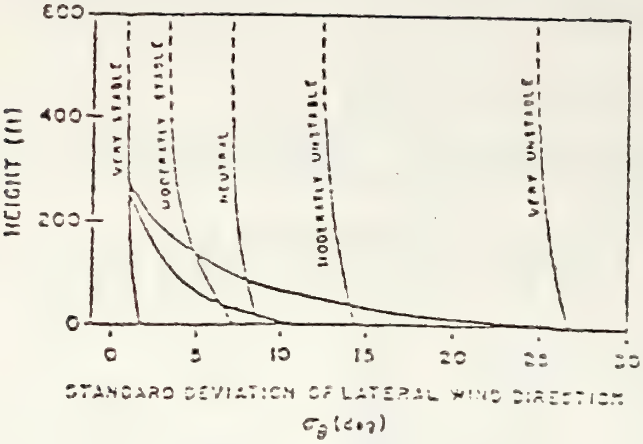

FIGURE 1

The vertical variation of the lateral wind-direction standard deviation (σ_Θ) for various stability regimes. The curves represent average or typical conditions with the exception of the two outer "very stable" lines, which represent extremes.

The large surface values of σ_Θ for unstable conditions do not decrease very rapidly with height. As in the case of very stable conditions, the greatest lateral fluctuations during a very unstable thermal structure occur with very light winds. As a general rule, for a given insolation condition, increasing wind speeds are associated with profiles of σ_Θ that tend toward neutral stability.

The majority of the trailers in the network recorded very light winds throughout the month. Therefore, the stability distributions had a predominance of high σ_Θ values and, hence, unstable classifications. Those trailers with the highest average winds (and fewest nearby obstacles to the flow) generally had the more reasonable and representative low-level stability class distributions.

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-b SHALE OIL PROJECT
                      LEVEL =  8 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - A
                                                       WIND DIRECTION
                       N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED       8.   4.   3.   3.   2.   0.   1.   3.   1.   2.   2.   3.   6.   4.   4.   8.
  MPH

   GT   24    :                                                                                  :        0.
   18 -  24   :                                                                                  :        0.
   12 -  18   :                                                                                  :        0.
    7 -  12   :    2                                                                           1 :     3  2.
    3 -   7   :   17    8    1    1         1         1                       2   10    1    2    9 :    53 44.
   LT    3    :    6    6   11    8    6    1    2    0    1    2    2    2    7    5    0    5 :    64 53.
     TOTAL    :   25   14   12    9    6    2    2    1    1    2    2    4   17    6    2   15 :  120
    PERCENT   :  21.  12.  10.   7.   5.   2.   2.   1.   1.   2.   2.   3.  14.   5.   2.  12. :      100.
              ......................................................................................

                 TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        24(  20.00 %)
```

CORPORATION

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                                    STABILITY WIND ROSE DIAGRAM

                                        C-B SHALE OIL PROJECT
                              LEVEL =  6 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - F
                                                           WIND DIRECTION
                      N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED      3.   3.    4.   2.    3.   3.    2.   0.    1.   0.    3.   3.    3.   7.    6.   1.
     MPH

    GT   24   :                                                                                      :        0.

   18 -  24   :                                                                                      :        0.

   12 -  18   :                                                                                      :        0.

    7 -  12   :                                                                  1                   :    1   2.

    3 -   7   :      1    1     1          1    2                             1    1     1    8     4        :   21  40.

    LT    3   :      0    3     1    2     7    1     2          1          2    0     3    6     2     1   :   31  58.

     TOTAL    :      1    4     2    2     8    3     2    0     1    0     3    1     4   15     6     1   :   53

   PERCENT    :     2.   8.    4.   4.   15.   6.    4.   0.    2.   0.    6.   2.    8.  28.   11.    2.   :      100.
              ..........................................................................................................

                      TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          11(  20.75 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                             C-B SHALE OIL PROJECT
                                LEVEL =  6 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - C

                                                                WIND DIRECTION
                          N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW   TOTAL   %
GROUP MAX SPEED           7.   5.   3.   3.    2.   5.   2.    4.    1.   1.   5.   5.    5.   7.   7.    3.
   MPH

     GT   24    :
                                                                                                              :          0.
   18 -   24    :
                                                                                                              :          0.
   12 -   18    :
                                                                                                              :          0.
    7 -   12    :    2
                                                                                            4     1           :      7   3.
    3 -    7    :    4     2    1     1          5          1                4     3   11   45    20     1   :     98  49.
    LT     3    :    3     1    2     4    14   13     7    1     1    1    10     4   15   14     6     1   :     97  48.
     TOTAL      :    9     3    3     5    14   18     7    2     1    1    14     7   26   63    27     2   :    202
    PERCENT     :    4.    1.   1.    2.   7.   9.    3.   1.    0.   0.   7.    3.  13.  31.   13.    1.  :         100.
                 ..........................................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          25(  12.38 %)
```

[illegible] CORPORATION

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                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                         LEVEL =  8 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - D
                                                        WIND DIRECTION
                        N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED        7.   3.   1.   3.   3.   4.   3.   3.   1.   3.   5.   5.   6.   8.   7.   3.
    MPH


    GT   24     :                                                                                 :        0.

  18 -   24     :                                                                                 :        0.

  12 -   18     :                                                                                 :        0.

   7 -   12     :       2                                                            1    1       :      4  1.

   3 -    7     :       8    2         2    2   10    5    1         2   28    5   15   47    9    1 :    137 50.

    LT    3     :       3    1    1    7   11   14   10    2    1   16   29    2   11   19    2    2 :    131 48.

    TOTAL       :      13    3    1    9   13   24   15    3    1   18   57    7   26   67   12    3 :    272

  PERCENT       :      5.   1.   0.   3.   5.   9.   6.   1.   0.   7.  21.   3.  10.  25.   4.   1. :       100.
                .......................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        32(  11.76 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                     C-B SHALE OIL PROJECT
                           LEVEL =  8 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - F
                                                  WIND DIRECTION
                     N   NNE   NE   ENE   E  ESE   SE  SSE   S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     0.   0.    2.   2.   2.   3.   3.   0.   0.   0.   4.   4.   4.   2.   0.   0.
    MPH

    GT   24   :                                                                               :        0.

   18 -  24   :                                                                               :        0.

   12 -  18   :                                                                               :        0.

    7 -  12   :                                                                               :        0.

    3 -   7   :                            1    1                   5    1    1               :     9 31.

    LT    3   :              1    1    1    2    1                  10    0    3    1          :    20 69.

     TOTAL    :     0    0    1    1    1    3    2    0    0    0   15    1    4    1    0    0 :    29

   PERCENT    :    0.   0.   3.   3.   3.  10.   7.   0.   0.   0.  52.   3.  14.   3.   0.   0. :      100.
              ......................................................................................

                    TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          5(  17.24 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                        LEVEL =  8 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - TOTAL
                                                     WIND DIRECTION
                        N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED        8.   5.   4.   3.   3.   5.   3.   4.   1.   3.   5.   5.   6.   8.   7.   8.
    MPH


    GT   24     :                                                                                  :        0.

   18 -  24     :                                                                                  :        0.

   12 -  18     :                                                                                  :        0.

    7 -  12     :   6                                                              6    2    1     :   15   2.

    3 -   7     :  30   13    3    4    3   19    6    3         2   38   12   38  101   35   11    :  318  45.

    LT    3     :  13   12   16   23   41   34   25    3    4   20   57   11   41   48   11    9    :  368  52.

     TOTAL      :  49   25   19   27   44   53   31    6    4   22   95   23   79  155   48   21    :  701

    PERCENT     :  7.   4.   3.   4.   6.   8.   4.   1.   1.   3.  14.   3.  11.  22.   7.   3.   :      100.
                ......................................................................................

                        TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =         97(  13.84 %)


                              PERCENTAGE OF A      STABILITY -  17.12 %
                              PERCENTAGE OF B      STABILITY -   7.56 %
                              PERCENTAGE OF C      STABILITY -  28.62 %
                              PERCENTAGE OF D      STABILITY -  38.86 %
                              PERCENTAGE OF E      STABILITY -   4.14 %
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                                LEVEL = 30 FEET   PERIOD( 2/ 1/77 TO  2/28/77)

  STABILITY CLASS - A
                                                                 WIND DIRECTION
                          N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
 GROUP MAX SPEED         16.   6.   3.   4.    2.   2.   3.   0.    0.   0.   3.   4.    7.   6.   7.   7.
      MPH


      GT   24    :                                                                                        :        0.

     18 -  24    :                                                                                        :        0.

     12 -  18    :                                                                                        :        0.

      7 -  12    :    8                                                           2              1    1   :     12 16.

      3 -   7    :    9     7     2     3               1                    1    2    4    4    3    4   :     40 52.

      LT    3    :    1     5     3     4     3     2    0                   0    4    0    1    1    1   :     25 32.

      TOTAL      :   18    12     5     7     3     2    1     0    0    0   1    6    6    5    5    6   ;     77

      PERCENT    :  23.   16.    6.    9.    4.    3.   1.    0.   0.   0.   1.   8.   8.   6.   6.   8.  :       100.
                 ..........................................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -           1(    1.30 %)
```

CORPORATION

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                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                         LEVEL = 30 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - B
                                                          WIND DIRECTION
                      N   NNE   NE  ENE   E  ESE   SE  SSE   S  SSW   SW  WSW   W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED      6.   4.   1.   5.   5.   2.   2.   0.   1.   0.   1.   4.   4.   6.   6.   0.
     MPH


     GT   24   :                                                                                   :       0.

   18 -   24   :                                                                                   :       0.

   12 -   18   :                                                                                   :       0.

    7 -   12   :      1                                                                            :    1  3.

    3 -    7   :      3    3         1    2                                  1    3    2    3       :   18 56.

     LT    3   :      0    3    1    1    1    2    1         1         1    2    0    0    0       :   13 41.

     TOTAL     :      4    6    1    2    3    2    1    0    1    0    1    3    3    2    3    0  :   32

   PERCENT     :    12.  19.   3.   6.   9.   6.   3.   0.   3.   0.   3.   9.   9.   6.   9.   0. :     100.
                 ........................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          1(   3.12 %)
```

```
                                STABILITY WIND ROSE DIAGRAM

                                   C-B SHALE OIL PROJECT
                        LEVEL = 30 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - C
                                                        WIND DIRECTION
                      N   NNE   NE  ENE   E   ESE   SE  SSE   S  SSW   SW  WSW   W   WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED      7.   3.    4.   4.   3.   4.   4.   2.   2.   0.   4.   5.   7.   9.   8.   8.
     MPH

   GT  24    :                                                                                 :       0.
   18 - 24   :                                                                                 :       0.
   12 - 18   :                                                                                 :       0.
    7 - 12   :    1                                                        1    2    4    1    :     9  9.
    3 -  7   :    2    2    2    1    2    3    3                   3    6    5   24   15    2  :    70 68.
    1 -  3   :    0    1    0    2    3    5    3    2    1         1    2    1    3    0    0  :    24 23.
    TOTAL    :    3    3    2    3    5    8    6    2    1    0    4    8    7   29   19    3  :   103
   PERCENT   :   3.   3.   2.   3.   5.   8.   6.   2.   1.   0.   4.   8.   7.  28.  18.   3.  :      100.
              ...........................................................................................

                  TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         2(   1.94 %)
```

CORPORATION

```
                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                                  LEVEL = 30 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - D
                                                                   WIND DIRECTION
                          N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW   TOTAL  %
GROUP MAX SPEED         10.    1.    1.    4.    4.    5.    5.    4.    0.    5.    7.    7.    8.   11.    9.   10.
    MPH


    GT    24     :                                                                                                 :        0.

  18 -    24     :                                                                                                 :        0.

  12 -    18     :                                                                                                 :        0.

   7 -    12     :    2                                                     3     2     5    15     6     4 :   37 12.

   3 -     7     :    6                 3    12    17    13     3          15    27    12    27    73    11     7 :  226 75.

   LT      3     :    1     2     1     3     4     4     4     0           4     5     3     4     1     1     0 :   37 12.

    TOTAL        :    9     2     1     6    16    21    17     3     0    19    35    17    36    89    18    11 ;  300

   PERCENT       :   3.    1.    0.    2.    5.    7.    6.    1.    0.    6.   12.    6.   12.   30.    6.    4. :      100.
                   ................................................................................................

                            TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          1(   0.33 %)
```

CORPORATION

```
                                         STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                                LEVEL = 30 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - F
                                                            WIND DIRECTION
                       N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED      11.   8.   3.   0.   4.   5.   5.   5.   2.   6.   7.   6.   7.   7.   6.   0.
     MPH


     GT   24   :                                                                                  :        0.

   18 -   24   :                                                                                  :        0.

   12 -   18   :                                                                                  :        0.

    7 -   12   :     1    1                                            2         2    2           :      8  8.

    3 -    7   :     4    0    1         4    7    8    2         5   10    3    7   19    1      :     71 75.

     LT    3   :     0    0    3         0    2    1    2    3    0    3    0    4    0    0      :     18 19.

     TOTAL     :     5    1    4    0    4    9    9    4    3    5   15    3   13   21    1    0 ;     97

     PERCENT   :    5.   1.   4.   0.   4.   9.   9.   4.   3.   5.  15.   3.  13.  22.   1.   0. :      100.
                 ...............................................................................................

                             TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          0(   0.00 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                          LEVEL = 30 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - TOTAL
                                                         WIND DIRECTION
                      N  NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     11.   8.   4.   5.   5.   5.   5.   5.   2.   6.   7.   7.   8.  11.   9.  10.
     MPH

    GT   24    :                                                                                :       0.

   18 -  24    :                                                                                :       0.

   12 -  18    :                                                                                :       0.

    7 -  12    :    13    1                                             5    2   10   19   11    6 :   67 11.

    3 -   7    :    24   12    5    8   20   27   25    5        20   41   24   46  122   33   13 :  425 70.

    LT    3    :     2   11    8   10   11   15    9    4    5    4   10   11    9    6    2    1 :  118 19.

    TOTAL      :    39   24   13   18   31   42   34    9    5   24   56   37   65  147   46   20 :  610

   PERCENT     :    6.   4.   2.   3.   5.   7.   6.   1.   1.   4.   9.   6.  11.  24.   8.   3. :     100.
               ...............................................................................................

                   TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -           5(   0.82 %)


                           PERCENTAGE OF A       STABILITY -  12.62 %
                           PERCENTAGE OF B       STABILITY -   5.25 %
                           PERCENTAGE OF C       STABILITY -  16.89 %
                           PERCENTAGE OF D       STABILITY -  49.18 %
                           PERCENTAGE OF E       STABILITY -  15.90 %
```

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT
LEVEL =100 FEET   PERIOD(2/ 1/77 TO 2/28/77)

```
STABILITY CLASS - A
                                                                  WIND DIRECTION
                         N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED         12.  11.   4.   4.    2.   3.   2.   0.    0.   2.   1.   7.    4.   7.   6.   9.
     MPH


     GT    24    :                                                                                         :        0.

    18 -   24    :                                                                                         :        0.

    12 -   18    :       1                                                                                 :      1  1.

     7 -   12    :       6    4                                                   1          1    2    1   :     15 21.

     3 -    7    :       8    4    5    1          1                              2    1     4    1    5   :     32 46.

     LT     3    :       4    2    3    2     2    0    1               1    1    2    3     1    0    0   :     22 31.

      TOTAL      :      19   10    8    3     2    1    1    0     0    1    1    5    4     6    3    6   :     70

     PERCENT     :     27.  14.  11.   4.    3.   1.   1.   0.    0.   1.   1.   7.   6.    9.   4.   9.  :       100.
                   .................................................................................................

                       TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -         3(   4.29 %)
```

```
                                     STABILITY WIND ROSE DIAGRAM

                                         C-B SHALE OIL PROJECT
                             LEVEL =100 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - B
                                                               WIND DIRECTION
                          N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED          11.   5.   2.   2.   4.   0.   5.   4.   3.   0.   0.   5.   4.   7.   9.   7.
     MPH


    GT   24     :                                                                                     :        0.

   18 -  24     :                                                                                     :        0.

   12 -  18     :                                                                                     :        0.

    7 -  12     :    2                                                                  1    3    1   :      7 16.

    3 -   7     :    3    4              1         2    1    1              2    3    2    3    2   :     24 55.

    LT    3     :    0    0    2    5    1         0    0    0              1    1    1    2    0   :     13 30.

     TOTAL      :    5    4    2    5    2    0    2    1    1    0    0    3    4    4    8    5   :    44

   PERCENT      :  11.   9.   5.  11.   5.   0.   5.   2.   2.   0.   0.   7.   9.   9.  18.   7.  :       100.
                 ..........................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          0(    0.00 %)
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                      C-B SHALE OIL PROJECT
                              LEVEL =100 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - C
                                                          WIND DIRECTION
                     N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED     7.   6.    4.   6.   5.   5.   6.   5.   6.   0.   4.   5.   8.   7.   9.   6.
    MPH

   GT   24     :                                                                                 :       0.

   18 -  24    :                                                                                 :       0.

   12 -  18    :                                                                                 :       0.

    7 -  12    :    2                                                          1    5    6       :   14 14.

    3 -   7    :    2    6    1    3    4    4    5    2    2         3    5    9    6   16    1 :   69 71.

   LT    3     :    0    1    1    2    2    3    1    1    0         0    0    3    0    0    0 :   14 14.

     TOTAL     :    4    7    2    5    6    7    6    3    2    0    3    5   13   11   22    1 :   97

   PERCENT     :   4.   7.   2.   5.   6.   7.   6.   3.   2.   0.   3.   5.  13.  11.  23.   1. :     100.
               ..........................................................................................

                     TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          1(   1.03 %)
```

```
                                  STABILITY WIND ROSE DIAGRAM

                                    C-B SHALE OIL PROJECT
                          LEVEL =100 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - D
                                                            WIND DIRECTION
                       N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED       12.   8.   4.   4.    4.   7.   6.   6.    7.   5.   4.   6.    8.  13.   10.   9.
    MPH

    GT    24   :                                                                                    :       0.
   18 -   24   :                                                                                    :       0.
   12 -   18   :       1                                                          2                  :     3  1.
    7 -   12   :       7    2                     1                1                4     8   50   21    1 :    95 30.
    3 -    7   :       1    0    2     3     4   20   19     4     1    6   12   10    21   62   23    2 :   190 61.
    LT     3   :       0    1    2     0     1    3    3     3     2    3    1    3     3    1    0    0 :    26  8.
    TOTAL      :       9    3    4     3     5   24   22     7     4    9   13   17    32  115   44    3 :   314
    PERCENT    :      3.   1.   1.    1.    2.   8.   7.    2.    1.   3.   4.   5.   10.  37.  14.   1. :     100.
               ..........................................................................................

                   TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          3(   0.96 %)
```

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                      LEVEL =100 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - E
                                                         WIND DIRECTION
                       N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED      14.   11.   1.   0.    4.   6.    5.   6.    1.   2.    3.   3.    8.  12.   8.   11.
   KPH

    GT   24    :                                                                                      :        0.

   18 -  24    :                                                                                      :        0.

   12 -  18    :   2                                                                   1              :     3  4.

    7 -  12    :   6    3                                                         3   12    2    1    :    27 33.

    3 -   7    :   0    1                 2    5    7    3               3    1    8   10    2    0    :    42 51.

    LT    3    :   0    1    2            0    2    1    1    1    1    0    0    1    0    0    0    :    10 12.

     TOTAL     :   8    5    2    0       2    7    8    4    1    1    3    1   12   23    4    1    :    82

    PERCENT    :  10.   6.   2.   0.     2.   9.  10.   5.   1.   1.   4.   1.  15.  28.   5.   1.   :       100.
               ...............................................................................................

                      TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -       3(   3.66 %)
```

CORPORATION

```
                              STABILITY WIND ROSE DIAGRAM

                                 C-B SHALE OIL PROJECT
                        LEVEL =100 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - TOTAL
                                                         WIND DIRECTION
                          N   NNE    NE   ENE    E   ESE    SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL  %
 GROUP MAX SPEED         14.  11.    4.    6.   5.   7.    6.   6.    7.   5.   4.   8.    8.  13.  10.  11.
       MPH

     GT    24   :                                                                                          :         0.

   18 -    24   :                                                                                          :         0.

   12 -    18   :         4                                                                 3              :      7  1.

    7 -    12   :        23     9                    1                1               5    12   69   34    4 :    158 26.

    3 -     7   :        14    15    8     7    11   30    33   10    4    6   18   20    42   84   45   10 :    357 59.

    LT      3   :         4     5   10     9     6    8     6    5    3    5    2    6    12    4    3    0 :     88 14.

      TOTAL     :        45    29   18    16    17   39    39   15    8   11   20   31    66  160   82   14 :    610

    PERCENT     :         7.    5.   3.    3.    3.   6.    6.   2.   1.   2.   3.   5.   11.  26.  13.   2. :       100.
                        ...........................................................................................

                          TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        10(   1.64 %)


                                PERCENTAGE OF A       STABILITY -  11.48 %
                                PERCENTAGE OF B       STABILITY -   7.21 %
                                PERCENTAGE OF C       STABILITY -  15.90 %
                                PERCENTAGE OF D       STABILITY -  51.48 %
                                PERCENTAGE OF E       STABILITY -  13.93 %
```

```
                                   STABILITY WIND ROSE DIAGRAM

                                     C-B SHALE OIL PROJECT
                           LEVEL =200 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - A
                                                      WIND DIRECTION
                        N   NNE   NE  ENE   E   ESE   SE  SSE   S  SSW   SW  WSW   W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED        15.  13.   4.   3.   2.   2.   2.   4.   5.   0.   0.   3.   5.   8.   5.  12.
   MPH


    GT    24    :                                                                                :        0.

  18 -    24    :                                                                               .:        0.

  12 -    18    :   3    1                                                                     1 :     5  6.

   7 -    12    :  12    1                                                        2            2 :    17 19.

   3 -     7    :  10    4    6    1                   3    1              2    2    4    3    3 :    39 44.

    LT     3    :   3    3    2    1    3    3    5    2    1              2    1    0    1    1 :    28 31.

     TOTAL      :  28    9    8    2    3    3    5    5    2    0    0    4    3    6    4    7 :    89

    PERCENT     : 31.  10.   9.   2.   3.   3.   6.   6.   2.   0.   0.   4.   3.   7.   4.   8. :      100.
                ...............................................................................................

                        TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          2(   2.25 %)
```

```
                                      STABILITY WIND ROSE DIAGRAM

                                         C-B SHALE OIL PROJECT
                              LEVEL =200 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS = B
                                                                WIND DIRECTION
                         N   NNE   NE  ENE    E  ESE   SE  SSE    S  SSW   SW  WSW    W  WNW   NW  NNW  TOTAL  %
GROUP MAX SPEED         11.   6.   0.   3.   5.   2.   2.   3.   6.   0.   0.   6.   5.   7.   8.   7.
      MPH


     GT    24     :                                                                                  :        0.

   18 -    24     :                                                                                  :        0.

   12 -    18     :                                                                                  :        0.

    7 -    12     :   2                                                             1    1    1 :      5 12.

    3 -     7     :   2    3         2    1              2    2              3    4    5    3    2 :     29 71.

     LT     3     :   1    0         0    3    2    1    0    0              0    0    0    0    0 :      7 17.

      TOTAL       :   5    3    0    2    4    2    1    2    2    0    0    3    4    6    4    3 :     41

    PERCENT       : 12.   7.   0.   5.  10.   5.   2.   5.   5.   0.   0.   7.  10.  15.  10.   7. :       100.
                 ..........................................................................................

                             TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -           3(   7.32 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                           C-B SHALE OIL PROJECT
                              LEVEL =200 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - C
                                                          WIND DIRECTION
                         N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW  TOTAL   %
GROUP MAX SPEED         7.    5.   5.    6.   5.    3.   6.    6.   8.    5.   2.    5.   8.    7.  10.   11.
   MPH


     GT    24   :                                                                                        :           0.

     16 -  24   :                                                                                        :           0.

     12 -  18   :                                                                                        :           0.

      7 -  12   :       1                                      1                         1     2    14     1 :       20  22.

      3 -   7   :       2     2    3     3    2     1    7     5    4     1          4    6    11    10     0 :       61  68.

     LT     3   :       0     1    1     0    0     0    2     2    0     0     1    0    1     1     0     0 :        9  10.

      TOTAL     :       3     3    4     3    2     1    9     7    5     1     1    4    8    14    24     1 ;       90

     PERCENT    :      3.    3.   4.    3.   2.    1.  10.    8.   6.    1.    1.   4.   9.   16.   27.    1. :         100.
                    ...........................................................................................................

                            TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -            2(   2.22 %)
```

```
                                          STABILITY WIND ROSE DIAGRAM

                                            C-B SHALE OIL PROJECT
                                LEVEL =200 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

STABILITY CLASS - D
                                                                   WIND DIRECTION
                         N   NNE   NE   ENE   E   ESE   SE   SSE    S   SSW   SW   WSW   W   WNW   NW   NNW  TOTAL  %
GROUP MAX SPEED         14.   7.   5.    4.   2.   4.   5.   7.    8.   9.   5.   8.   7.  12.  10.   6.
     MPH


     GT    24    :                                                                                      :         0.

   18 -    24    :                                                                                      :         0.

   12 -    18    :   1                                                                3                 :      4  2.

    7 -    12    :   4     1                                   1     3     3          1    1   30   60    :    104 39.

    3 -     7    :   1     1     2     1          2     7     11     6     3    1     9   12   42   35   5 :    138 52.

   LT       5    :   2     0     0     0    3     3     5      1     0     0    1     1    2    0    0   0 :     18  7.

     TOTAL       :   8     2     2     1    3     5    12     13     9     6    2    11   15   75   95   5 :  264

   PERCENT       :  3.    1.    1.    0.   1.    2.    5.     5.    3.    2.   1.    4.   6.  28.  36.  2. :       100.
                 ..........................................................................................

                              TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          2(   0.76 %)
```

```
                                        STABILITY WIND ROSE DIAGRAM

                                          C-B SHALE OIL PROJECT
                               LEVEL =200 FEET  PERIOD( 2/ 1/77 TO  2/28/77)

 STABILITY CLASS - F
                                                                WIND DIRECTION
                          N   NNE    NE   ENE     E   ESE    SE   SSE     S   SSW    SW   WSW     W   WNW    NW   NNW  TOTAL  %
GROUP MAX SPEED         15.   13.    0.    2.    0.    2.    6.    6.   10.   10.    5.    4.    6.   12.   10.    9.
     MPH


     GT   24    :                                                                                                      :        0.

    18 -  24    :                                                                                                      :        0.

    12 -  18    :         9     2                                                                 1                    :     12 11.

     7 -  12    :         9     1                                               2     3                        14    17     1 :     47 43.

     3 -   7    :         1     2                             1     4     1     0     1     4     3    12     9     0 :     38 35.

     LT    3    :         0     2           1           1     3     2     1     2     0     0     0     0     0     0 :     12 11.

      TOTAL     :        19     7     0     1     0     1     4     6     4     5     1     4     3    27    26     1 :    109

     PERCENT    :       17.    6.    0.    1.    0.    1.    4.    6.    4.    5.    1.    4.    3.   25.   24.    1. :       100.
                        ...........................................................................................................

                               TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -          2(   1.83 %)
```

CORPORATION

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                                      STABILITY WIND ROSE DIAGRAM

                                         C-B SHALE OIL PROJECT
                             LEVEL =200 FEET   PERIOD( 2/ 1/77 TO  2/28/77)

  STABILITY CLASS - TOTAL
                                                        WIND DIRECTION
                        N   NNE   NE   ENE    E   ESE   SE   SSE    S   SSW   SW   WSW    W   WNW   NW   NNW   TOTAL   %
GROUP MAX SPEED        15.  13.   5.   6.    5.   4.   6.   7.   10.  10.   5.   8.    8.  12.   10.  12.
      MPH


      GT   24   :                                                                                    :          0.

     18 -  24   :                                                                                    :          0.

     12 -  18   :      13    3                                                         4           1 :    21    4.

      7 -  12   :      28    3                            1    6    6          1    2   49    92     5 :   193   32.

      3 -   7   :      16   12   11    7     3    3   15   25   14    4    2   22   27   74    60    10 :   305   51.

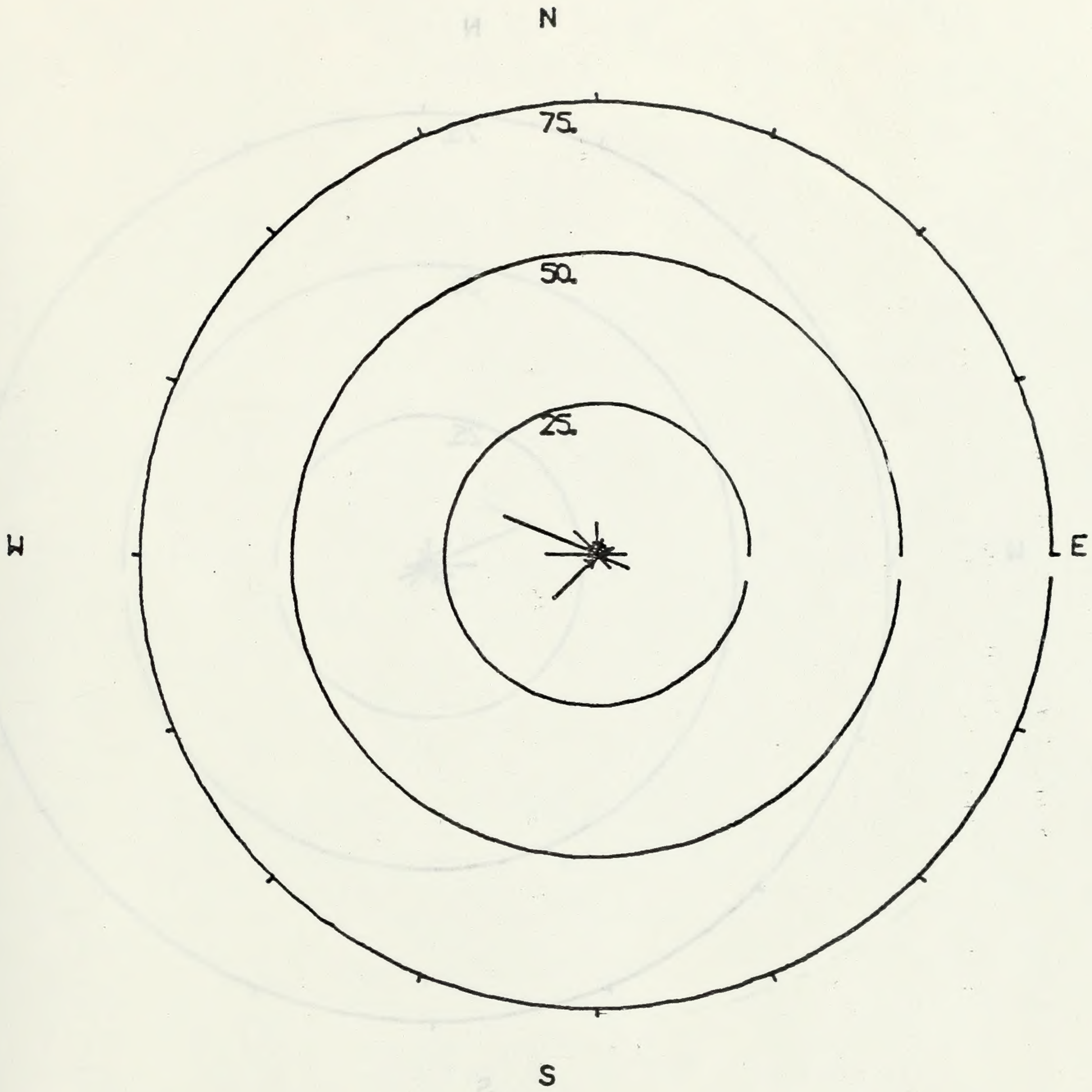
      LT    3   :       6    6    3    2     9    9   16    7    2    2    2    3    4    3     2     1 :    77   13.

       TOTAL    :      63   24   14    9    12   12   31   33   22   12    4   26   33  130   154    17 :   596

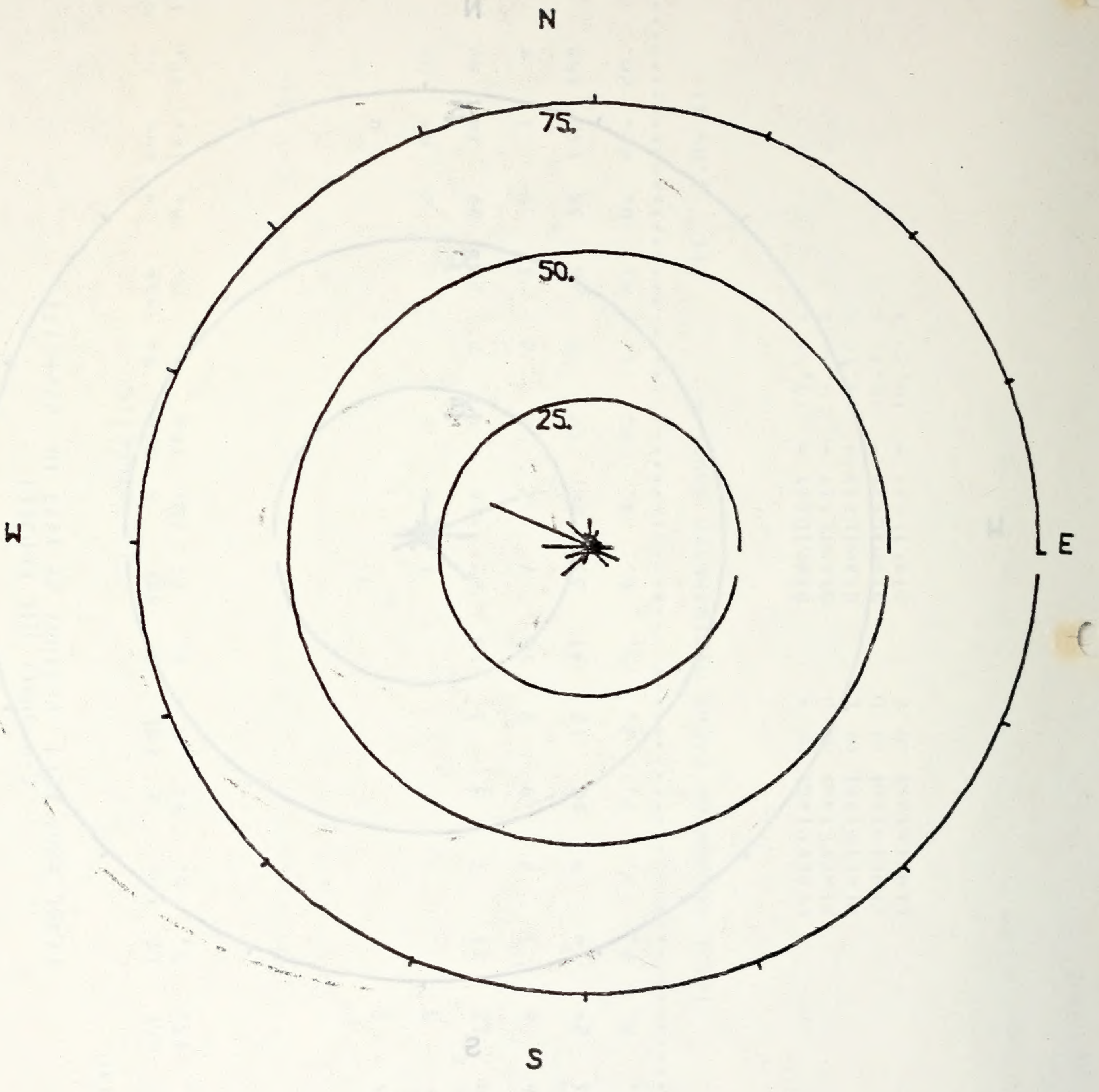
      PERCENT   :      11.   4.   2.   2.    2.   2.   5.   6.   4.   2.   1.   4.   6.  22.   26.    3. :        100.
                ..................................................................................................

                         TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -        11(   1.85 %)

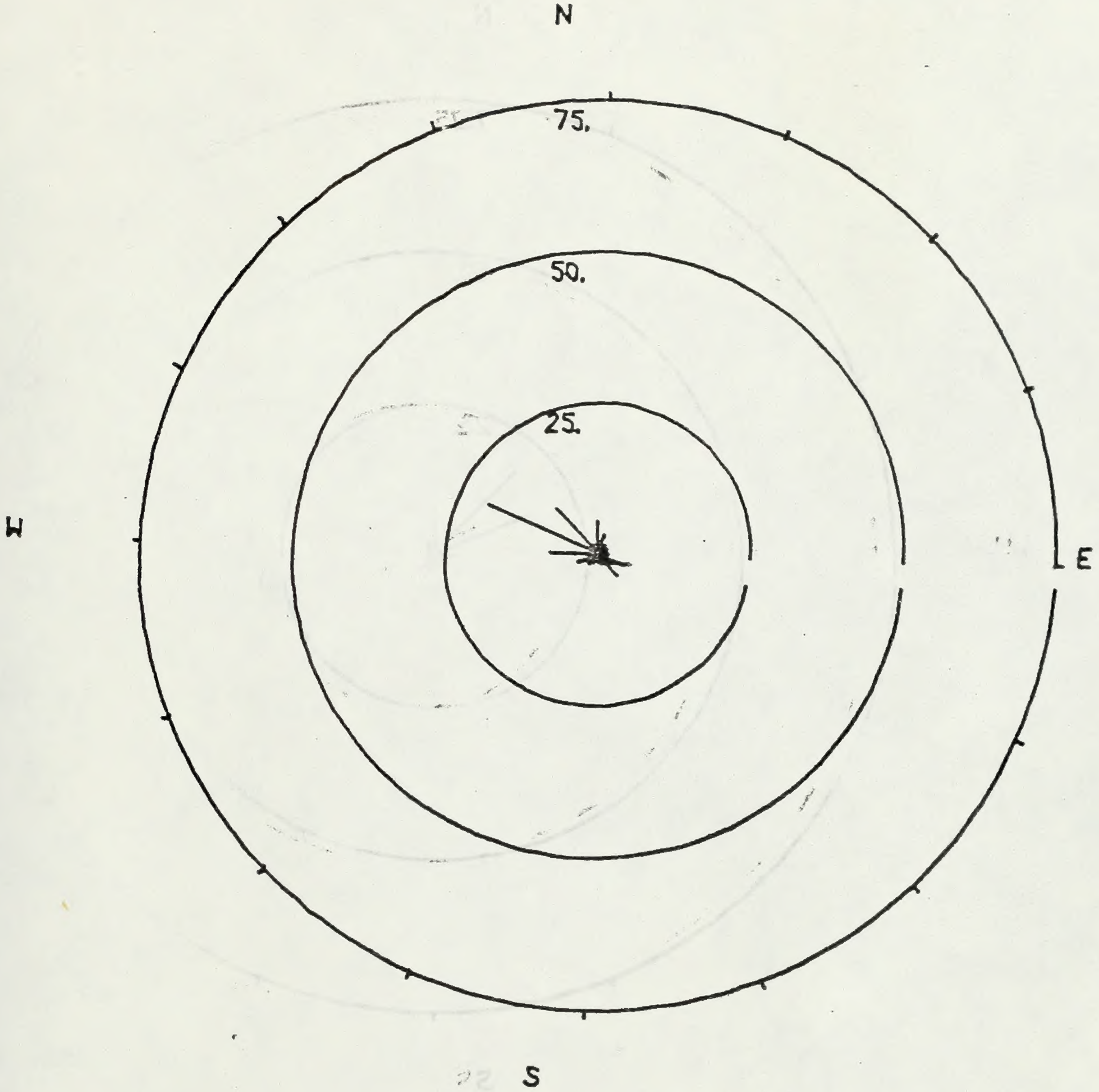

                              PERCENTAGE OF A        STABILITY -   14.93 %
                              PERCENTAGE OF B        STABILITY -    6.85 %
                              PERCENTAGE OF C        STABILITY -   15.10 %
                              PERCENTAGE OF D        STABILITY -   44.55 %
                              PERCENTAGE OF E        STABILITY -   18.29 %
```



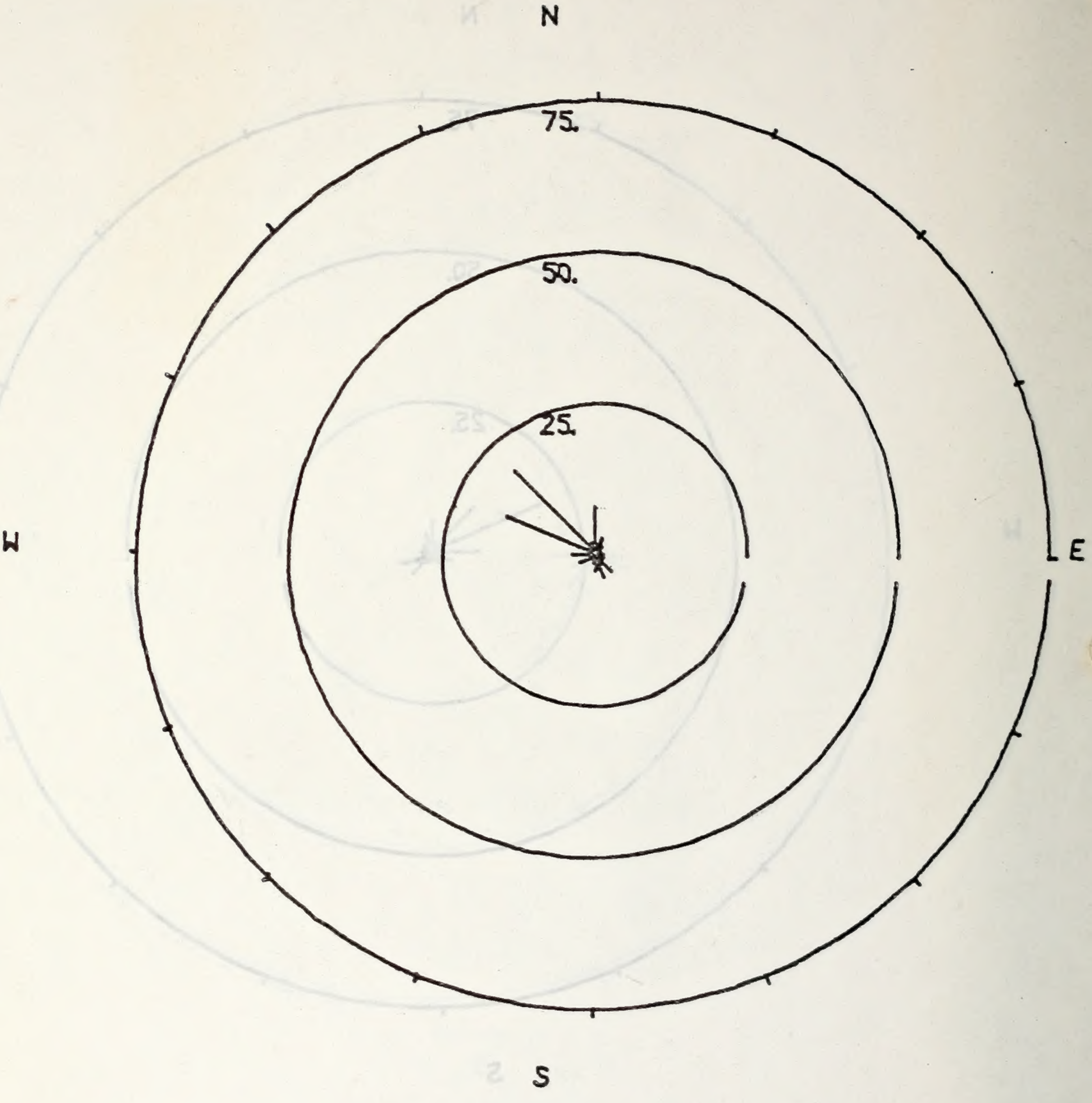
PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 8 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 30 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 100 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL